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A Twenty-five Year Review of the Work of the Committee on Administrative Practice

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THE 25th birthday of the Committee on Administrative Practice seems a fitting time to take a backward look at its history, evaluate its accomplishments, and explore the avenues of its usefulness in the immediate future. It was in 1920 that the committee was first organized, having its immediate roots in the 1915 studies of state health departments by Dr. Charles V. Chapin, and in the interest of the Metropolitan Life Insurance Company in "the character of the organization of municipal health departments." The Metropolitan, through the interest of its inspired statistician, Dr. Louis I. Dublin, provided the earliest funds for the work of the committee. Dr. Dublin was the first secretary of the committee, a post he filled with distinction for 15 years.

The history of great movements is the history of great men. This is no less true of the Committee on Administrative Practice. For the first 15 years of its pioneering existence, during which it laid the foundations of enduring influence upon public health in the United States, Dr. C.-E. A. Winslow served as its mentor. His devoted and informed service and that of a relatively small group similarly blessed with wisdom and foresight, such as Drs. Charles V. Chapin, Haven Emerson, Allen W. Freeman, George T. Palmer, W. S. Rankin, Henry F. Vaughan and W. Frank Walker, among others, were so productive that at the end of this period he was able to say, "In the first 15 years of life of the committee it has been possible to attain in considerable degree all of our five major objectives."

These five major objectives were at that time so clearly stated that they bear summarizing:

1. Secure authentic information as to the actual practice of American communities in the field of health organization.
2. Utilize the information in the form of a typical community health program which might be set up as a norm or as a general guide to be used by any community which aspires to provide adequate health protection for its citizens.
3. Devise a method by which the health

officer may appraise the results obtained by his program.

4. Make results of surveys, standards of administrative practice, and appraisal procedures directly available to health officers.

5. Secure popular support for public health programs by using the appraisal scheme to arouse local interest in health achievement.

The study of municipal health department practices in the 100 largest cities of the United States and the report of the study, the development of an appraisal form and its use by cities and later by rural health units, the stimulation of interest through the annual Health Conservation Contest with the active coöperation of local chambers of commerce—these are now familiar ways in which the five objectives were carried out. At the end of the first 15 years, thus, the evaluation process and the formulation of administrative standards had been carried to a high degree of development.

The Greek admonition to "know thyself" was further expressed in those early days by local and state health departments. The Committee on Administrative Practice early saw the value of a field consultant service which should be available for surveys and consultations to health officers. The first of such surveys was made in 1924 when 5 cities were studied—Charleston, S. C., Kansas City, Kan., Memphis, Syracuse, and Wilkesbarre. This number grew steadily until 18 cities or counties were surveyed or resurveyed in 1929. In 1925, Texas became the first state to be studied by the committee's field staff. In the years since 1924, a total of 151 surveys in Continental United States have been made, 17 of which were of state departments or of some aspect of state health service. In addition three surveys have been made in Alaska and Hawaii, and three in Canada. These surveys vary widely; many are thorough-going evaluations, with recommendations, of all health activities of a state, municipal, or county department as, for example, the Florida, California, and Illinois state or the Louisville, Washington, or Wilmington city surveys. Others might be a brief extension of the analysis of the appraisal form with recommendations. Still others are related to a single problem such as medical care of the indigent, tuberculosis, the sanitary code, outpatient services, etc.

The auspices under which such surveys are made also show a great variety. Often, perhaps most frequently, they are requested and paid for by the local or state boards of health as an earnest of their desire to apply the best available tests of performance to their health programs. Often the analysis of health activities is part of a larger survey of health and welfare services, both voluntary and official, and is initiated either by the local council of social agencies or perhaps by the national Community Chests and Councils. Here the emphasis is not only upon the health department performance, *per se*, but upon its integration with the total community effort. In a number of instances the surveys have been made as a part of experimental projects in the community, notably the annual evaluations made for the five year child health demonstration projects carried on by the Commonwealth Fund between 1924 and 1929 in four widely diversified communities of the United States.

These studies have immeasurably improved the architecture of public health administration throughout the country. California, Michigan, and Illinois State Health Departments, to cite examples, bear the imprint of the searching and courageous appraisal both of strength and of weakness by the committee's field staff. As a further example, *Time Magazine* of January 18, 1937, in discussing the Arizona survey said, "Boosters of Arizona as a health resort were last week obliged to

swallow a bitter purge compounded by Dr. Buck of the American Public Health Association." As a result, the legislature was immediately petitioned for a full-time health commissioner for the state and for each county and large city, with power to deal with water supply, sewage disposal and all other environmental factors.

Los Angeles County was studied in 1928 and again in 1937. In the latter year the authors were able to say "An analysis has shown that approximately 77 per cent of the many practical recommendations made by the 1928 survey have been carried out, either in whole or in part." When one remembers that these years encompass the great depression, this is a truly remarkable tribute both to the surveyor and the surveyed.

And what are some of the recommendations that have come out of these studies? By no means has the primary recommendation been for the expenditure of more money. Rather has the emphasis been upon putting the administrative house in order, upon divorce from political considerations, upon Merit System standards and tenure, upon proper balance of activities, upon attack on the "sore spots" in the local health picture, be they infant or maternal mortality, tuberculosis, malaria, hookworm, venereal diseases, or occupational diseases, and upon the use of administrative techniques that have currently been found most useful in dealing with tuberculosis, scarlet fever, syphilis and other diseases. The mere spending of money without the correction of administrative anomalies is never recommended.

The last ten years of the committee have seen the maturing of the evaluation process and its implementation. Starting in 1929 with the now familiar techniques of mass education, the Health Conservation Contest and later the National Health Honor Roll made the grass roots conscious of their own local health organizations. Sponsored by the U. S. Chamber of Commerce and local chambers it made use of the competitive spirit among cities and other local units of government. This technique served its primary purpose of focusing citizen attention on local health problems admirably, but it was inevitable that it should eventually have wider implications. The Honor Roll was discontinued in 1943. Succeeding it is the Reporting Area for Health Practices and *Health Practice Indices*, the 1943 edition of which was based upon 178 local health departments in 31 states and 4 Canadian provinces. The 1943 population served by the 168 departments in the United States was estimated to be 17,857,800, or 13 per cent of the total. In 1944 the number of departments increased to 233, representing more than one-sixth of the total population. In contrast, the first ten years (1880–1889) of the death registration area of the United States Bureau of the Census covered only Massachusetts, New Jersey, and the District of Columbia, or about 6 per cent of the population. The birth registration area started 35 years later in 1915 with about one-third of the population.

The Health Reporting Area is made up of those communities—cities, counties, or health districts—that prepare an evaluation schedule of the year's activities of the departments for use in building up the annual health practice indices. The emphasis is no longer upon a good or bad score as in the days of the competitive Health Contest or Honor Roll, but upon health protection in the community as a whole, on measurement of results rather than of mere activity. The evaluation schedule measures both needs and resources and the degree of success in which resources have been applied to needs.

The evaluation process has many

uses. Locally it is useful as an appraisal of the success with which the community meets its health needs, as a basis for budget making or annual reports, and as a basis for developing new programs. For the state departments of health it provides a basis for evaluating problems and programs in local health units, for determining budget allocations, and for indicating the supplementary services needed. Nationally it gives to the Public Health Service, the Chamber of Commerce, medical, labor, and management groups, an opportunity of observing a cross-section of the nation's health problems and practices. And finally it is a useful tool in the teaching of public health administration in schools of public health.

A significant outgrowth of the committee's attempt to codify, as it were, accepted public health practices came with the publication of a statement entitled, "Desirable Minimum Functions and Organization Principles for Health Activities." This has been officially adopted by the Association. Here is outlined the principle of local responsibility, supplemented by state and federal consultant and financial aid; here are outlined the six basic functions of a local health department; and here also are the hints of the future planning and responsibility that are now coming into the local health officer's area of activity. Not only has this statement, prepared by the Committee on Administrative Practice, had its influence in this country; the ripples of its effect have been visible in many other parts of the world. For example, it has been reported to be one of the two main sourcees of inspiration in the recent planning for the reorganization of health services in India.

After studying local health services, both through the growing evaluation process and through committees on health department practices, it began to be evident in the late 30's that one of the stumbling blocks in the way of the universal development of good local health administration was the chaotic situation whereby legal responsibility for local health service is vested in thousands of overlapping jurisdictions. It began to be painfully obvious that many of these jurisdictions would never fulfil their responsibilities because their population and other resources were so small that not even minimum service could be afforded. It was further evident that the movement for full-time county organization was progressing far too slowly for the same reason that, by and large, the population of individual counties is too small to support such a service. And although many areas, particularly cities, had developed local health departments of high standards and accomplishment, nevertheless, one-third of the population was without the services of a full-time local health officer.

In 1942, therefore, spurred also by resolutions of the American Medical Association and the American Public Health Association, the Committee on Administrative Practice appointed a Subcommittee on Local Health Units and charged it to explore the possibilities of making a blueprint for the administrative organization of local health services on at least a minimum basis that would cover every person in every county of every state and yet retain the advantages of local rather than of state or federal control. Fortunately for the work of the committee, Dr. Haven Emerson accepted the chairmanship, bringing to it not only his experience as administrator, teacher, and surveyor of health departments both in America and abroad, but his talents for discussion, persuasion, hard and unremitting work, and cutting through a forest of details to see the essential picture and see it whole, and his conviction with regard to the importance of local participation

in essential health services. All these he needed in developing a diagram of the existing situation with respect to local health administration—the legal framework, personnel and expenditures—and in working out with the state health officers of the 48 states an acceptable plan whereby each state might have local health service through administrative units made up of one or more counties and their contained cities, and containing a minimum population of approximately 50,000 persons.

The current results of this committee's work were recently published as *Local Health Units for the Nation*, by the Commonwealth Fund, which indeed made the work of the committee possible by its generous grants. I venture the prediction that this study will be as far-reaching as the first study of the parent committee, namely, "Health Practices in the 100 Largest Cities of the United States." In a very special way the recent report represents the culmination of the evaluation process; first the analysis of existing situations, then the development of criteria, and finally the administrative framework upon which desired objectives can be built.

This subcommittee recommends that the United States can be served with respect to local health functions through fewer than 1,200 administrative units, each under the direction of a full-time medically trained health officer assisted by the necessary clinical, sanitary, public health nursing, clerical, and other personnel. It believes further that the basic essentials of such a service can be provided for approximately one dollar per capita, and that even an optimum service ought to cost not more than $2.50 per capita.

This report is the post-war plan for public health. Here are the facts as to organization needed and the personnel that will be required. It represents the architect's drawing for the main building of local public health of the future, so designed that additions can be made to meet changing conditions without destroying its fundamental structural and functional beauty. This is a plan for increasing local responsibility and performance through administrative machinery adapted to present conditions, rather than for state or federal assumption of local responsibilities.

The evaluation process had also been discovering another stumbling block in "preventing sickness and achieving a high level of public health," which I take to be the purpose of all health service on whatever level of government. The lack of medical care was often found to create the public health problems with which local health departments are concerned. Hence while the Subcommittee on Local Health Units was perfecting an administrative pattern for carrying out whatever might now or in the future be the accepted functions of a local health department, another subcommittee, that on Medical Care, was suggesting an addition to the six long-accepted functions. The Subcommittee on Organized Care of the Sick was in existence between 1921 and 1935, and concerned itself chiefly with the relations between health departments and hospitals and with surveys of hospital and clinic facilities in relation to the local health department.

In 1939 this subcommittee was reorganized. By that time the new official climate in Washington and the nation generally with respect to public welfare services led the committee to focus its attention on a definition of the local health department's responsibility to the large portion of the population that receives insufficient and inadequate medical care, either because they are unable to pay the cost of care or because the services are not available. The unhappy findings of Selective Service examinations gave further

urgency to this problem. After a period of intensive study and discussion, this group, whose name had in 1943 been changed to Subcommittee on Medical Care, with Dr. Joseph W. Mountin of the Public Health Service as chairman, the following year presented to the parent committee and in turn the Governing Council of the Association "a set of principles expressing the desirable content of a comprehensive program of medical care, the methods of its administration, and the part which public health agencies should take in its operation." As a result, Medical Care in a National Health Program, an Official Statement of the American Public Health Association, was adopted by the Governing Council on October 4, 1944. Its content is too well known to need repeating here, except to review the objective of a national program for medical care that should make available to the entire population all essential preventive, diagnostic, and curative services of the highest standard, and rendered under conditions satisfactory both to the public and to the medical professions, and the recommendation that the public health agencies—federal, state, and local—should carry major responsibility in administering the health services of the future. Whether or not one agrees with the methods suggested for providing the required services or with the agencies designated for their administration, it is significant that the problem was placed before and acted upon by the Association.

The discussions going on at present in Congress with respect to a hospital construction plan that shall replace the present haphazard and highly inequable distribution of hospital facilities among the various parts of the country, and the responsibilities that state and local health officers will be called upon to meet in the development of this program, indicate how important it is that there should already be rather general agreement on the best techniques for carrying out currently recognized responsibilities. Without the last 25 years' work of the C.A.P. we should indeed be in sorry arrears as to our preparedness in meeting the new tasks ahead and the unique problems that will be created by returning personnel from the wars and the returning veteran with his need of physical and mental rehabilitation and his demand, quite properly, that there shall be no submerged one-third as to health protection.

These same developments point the way to the work ahead for the C.A.P. Events transpiring as this is written are changing the world overnight even more radically than air transportation did during the last generation. Nothing is clearer than that new methods must constantly be devised to meet new situations in public health no less than in other areas of human activity. The evaluating and originating process of the committee must go on, so that techniques no longer useful will be discarded and newer practices developed to meet changing and expanding needs. For example, although many of the more common communicable diseases no longer bulk large among public health problems, and it is reasonable to hope that tuberculosis can be entirely eliminated within another generation, the problems of chronic illness have hardly begun to be understood or faced. Here is a field for the combined talents of the researcher, clinician, health educator, the nutritionist, as well as for various study committees on Evaluation of Administrative Practice. And as long as accidents in home and factory continue to be more deadly than the lethal weapons of war, the Subcommittee on Accident Prevention will find more than enough to challenge its energy and ingenuity.

I cannot close without a brief refer-

ence to the many persons and agencies who have made the work of the committee possible—members of the committee, field staff, and financial backers. Reference has already been made to Dr. Winslow's unique service of 15 years as chairman of the committee. In the last ten years the committee has had three chairmen. Between 1936 and 1941, Dr. Eugene L. Bishop, with his experience as Tennessee State Health Officer and later pioneering as Medical Director of the Tennessee Valley Authority, provided the committee's leadership. In the next two years Dr. Henry F. Vaughan, at that time Health Commissioner of Detroit, and now Dean of the Michigan School of Public Health, brought to the service of the committee his very considerable talents and his long experience in the yeasty atmosphere of Detroit, Battle Creek, and Ann Arbor. These three chairmen—Dr. Winslow, Dr. Bishop, and Dr. Vaughan—have set a rare standard of accomplishment for me and others who follow them.

Dr. Dublin, in discussing the first 15 years of the committee's history, paid more eloquent tribute than I have words for to the early field staff—Dr. Rankin and his creation of the *Appraisal Form*, and Dr. Walker and his inauguration of the survey work of the committee and the launching of the Health Conservation Contest. More recently the committee has been fortunate in having the continuous services of Dr. Carl E. Buck for what will shortly be 15 years as Field Director. During these years he has been fearless in his analyses of health departments. It is greatly to his credit that the National Health Honor Roll has graduated into the less picturesque but more solid Health Practices Reporting Area. A lesser man might easily have been satisfied with letting a successful project continue indefinitely without seeing its wider implications. Nor can I pass by without special mention of Dr. George T. Palmer, who for many years as a member of the committee, and for the last two years as Associate Field Director, has served the cause of public health both wisely and well. The Public Health Service is indeed fortunate that personal considerations have taken him to Washington, but for the committee it is a grievous loss that will not easily be made up.

Mention has already been made of the early financing of the committee's work by the Metropolitan Life Insurance Company. Through Dr. Dublin's efforts other insurance companies * helped in financing the City Health Conservation Contests. The U. S. Chamber of Commerce gave local and national promotional help. When the Contest plan was extended to rural areas the Kellogg Foundation provided the funds, giving a total of about $200,000 for this purpose. Since 1928 the Commonwealth Fund has contributed continuously and generously for several committee activities, with a total of about $275,000. It has also published for the committee, Dr. Freeman's *A Study of Rural Health Service*, Dr. Hiscock's *Community Health Organization*, and Dr. Emerson's *Local Health Units for the Nation*. Beginning in 1925 the Milbank Memorial Fund over a period of five years made a grant of $40,000 for the development of the *Appraisal Form*. During the life of the committee, grants from these and other agencies have totaled nearly three-quarters of a million dollars. Thus in a real sense the committee's 25 year activities have been coöperative ventures shared in by other national agencies with an interest in the development of adequate health protection for every community.

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* The insurance companies contributing $1,000 or more for this purpose are: Prudential, Travelers, Aetna, John Hancock, New York Life, and Equitable Life.

Recent Trends in the Early Diagnosis of Tuberculosis

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THROUGHOUT the fifty years of the organized campaign against tuberculosis, a constant point of emphasis has been the importance of early diagnosis of the disease. Much of the work of public and private tuberculosis agencies has been directed toward that goal. Complete justification for such emphasis is the abundant evidence that early diagnosis means better prognosis, less disability, shorter duration of treatment, less economic hardship to the patient, lower cost of the disease to the community, and less opportunity for the transmission of infection.

The main purpose of this report is to review the trend of early diagnosis in New York State, exclusive of New York City, during a period of twenty years, as indicated by the stage of disease of newly reported cases of respiratory tuberculosis. It is of special interest to note certain striking changes which have occurred in recent years and to discuss the probable relationship of these changes to other recent events in tuberculosis control, notably the expansion of case finding through mass chest x-ray examinations of apparently healthy adults.

At the same time, it is believed that this study represents a means of adding to the knowledge of tuberculosis morbidity in general. In the past, much of the basic knowledge about the disease has been provided by analyses of tuberculosis mortality data. Relatively little similar information is available about morbidity. The material here presented constitutes a preliminary step toward providing more facts about the living cases.

MATERIAL USED

The geographic area represented is that known as "upstate New York," which includes all of New York State except the five boroughs which comprise New York City. The area includes 57 counties, ranging in size of population from 3,395 to 851,690, with a total estimated population in 1944 of 6,179,921.

Reporting of tuberculosis cases has been required by law in upstate New York since 1908. All official case reports, regardless of their place of origin (private physician, clinic, hospital, etc.), are ultimately filed in the Division of Tuberculosis of the State Department of Health. Since 1924, the annual reports of this division have contained an analysis of the cases reported each year, including the distribution of all cases according to age,

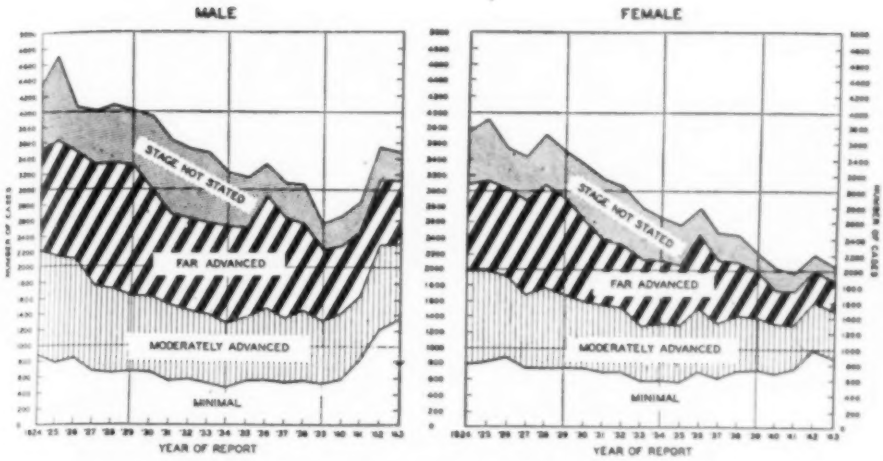

FIGURE 1—Number of reported cases of respiratory tuberculosis by sex and stage of disease, New York State, exclusive of New York City, 1924–1943

sex, and form (site) of the disease, and the distribution of the respiratory * cases according to age, sex, and stage of disease. The data for the respiratory cases reported during each of the twenty years from 1924 through 1943 were used in the preparation of this report. Non-respiratory cases were not considered, since the primary object was to study the trend of early diagnosis as shown by the stage of disease of respiratory cases, and the standard classification of stage of disease (minimal, moderately advanced, and far advanced) is, of course, applicable only to respiratory cases. It is of incidental interest, however, that the proportion of non-respiratory cases among all cases steadily decreased from about 12 per cent in 1924 to about 5 per cent in 1943.

A classification of the cases according to race was not considered necessary because the non-white racial groups constitute only 2.0 per cent of the upstate population, and only a relatively small proportion of the total cases occur among them, as for example, 6.5 per cent in 1943.

There are, of course, several other characteristics of reported cases which are of considerable importance from an administrative standpoint, such as sputum status, source of report, and time of reporting in relation to death, but these are not considered in this report.

RESULTS

The results of the study are presented by means of two sets of analyses:

1. Respiratory cases according to sex and stage of disease
2. The cases in each stage according to age and sex

Respiratory cases according to stage of disease

Figure 1 shows on a *cumulative* basis for each of the twenty years and for each of the two sex groups the number of reported cases of respiratory tuberculosis in each stage; the topmost curves thus represent the *total* number of respiratory cases reported each year in

* The term "respiratory" is used instead of the more common term "pulmonary" because the cases considered include some which are not strictly pulmonary, such as tuberculous pleurisy with effusion, tuberculosis of the trachea or bronchi (without mention of parenchymal involvement), and tuberculosis of other parts of the respiratory system, exclusive of the lungs.

TABLE 1

Number of Reported Cases of Respiratory Tuberculosis by Sex and Stage of Disease, New York State, Exclusive of New York City, 1924–1943

	Male					Female				
Year	Total	Minimal	Moderately Advanced	Far Advanced	Stage Not Stated	Total	Minimal	Moderately Advanced	Far Advanced	Stage Not Stated
1924	4,338	864	1,364	1,272	838	3,741	792	1,190	1,083	676
1925	4,692	784	1,370	1,468	1,070	3,896	819	1,161	1,143	773
1926	4,057	842	1,264	1,356	595	3,538	874	1,035	1,112	517
1927	4,000	688	1,081	1,564	667	3,428	756	912	1,199	561
1928	4,074	654	1,063	1,630	727	3,707	744	1,032	1,289	642
1929	4,019	679	948	1,673	719	3,508	742	950	1,221	595
1930	3,945	656	969	1,356	964	3,343	741	859	1,006	737
1931	3,629	565	958	1,148	958	3,148	680	883	824	761
1932	3,523	572	867	1,181	903	3,058	691	829	797	741
1933	3,485	531	866	1,178	910	2,793	592	694	841	666
1934	3,212	474	813	1,233	692	2,658	590	723	811	534
1935	3,160	550	810	1,152	648	2,573	577	704	767	525
1936	3,329	560	913	1,441	415	2,789	691	823	941	334
1937	3,092	530	825	1,263	474	2,470	612	712	802	344
1938	3,078	556	885	1,112	525	2,459	706	708	682	363
1939	2,554	518	791	902	343	2,211	722	677	588	224
1940	2,642	577	822	873	370	2,021	687	623	451	260
1941	2,811	797	831	817	366	1,974	733	565	442	234
1942	3,534	1,206	1,084	830	414	2,203	976	625	394	208
1943	3,492	1,326	976	807	383	2,040	870	571	407	192

each sex group. The actual number of cases reported each year by sex and stage of disease is shown in Table 1.

Considering first the total number of cases reported each year, the following observations are noteworthy:

1. In each year the total number of cases was higher among males than among females.

2. Except for three interruptions,* the total number of cases decreased progressively from 1924 through 1939 in males, and from 1924 through 1941 in females.

3. The total number of cases among males began an upward trend in 1940, reaching a peak in 1942, with but a slight subsequent decrease in 1943. By 1942 the number of cases among males was *38 per cent higher* than that in 1939, before the upward trend began (Table 1).

4. The total number of cases among females increased in 1942, dropping back in 1943 approximately to its 1940 level. The 1942 figure was 12 per cent higher than that in 1941 (Table 1).

In other words, following a long period in which the total number of cases was almost steadily declining in both sexes, a change in the trend has occurred in the recent years.

Turning to the distribution of cases according to the stage of disease, the number of cases reported in each stage, by sex, is shown in Figure 1 and Table 1. In addition, Figure 2 and Table 2 show the trend of the percentage distribution of reported cases by stage for each sex. The recent trends in the number of cases reported in each stage (minimal, moderately advanced, and far advanced) may be more clearly seen from the topmost curves in Figures 3, 4, and 5, respectively.

Outstanding is the marked increase in the number of minimal cases among

* 1925—The sharp peak in the number of cases in both sexes was a spurious one; in that one year, all report cards received, including those of previously reported cases, were included in the tabulations, instead of only those of cases reported for the first time.

1928—The total number of cases reported was higher than in the previous year, notably in females; this increase may have resulted from the sending of a personal letter by the Director of the Division of Tuberculosis to every physician in the upstate area requesting that all known cases be reported.

1936—The sharp increase in the number of cases in both sexes was incidental to the opening of three new district state tuberculosis hospitals in that year, and the simultaneous inauguration of decentralized, more frequent field chest clinics in the area served by these hospitals.

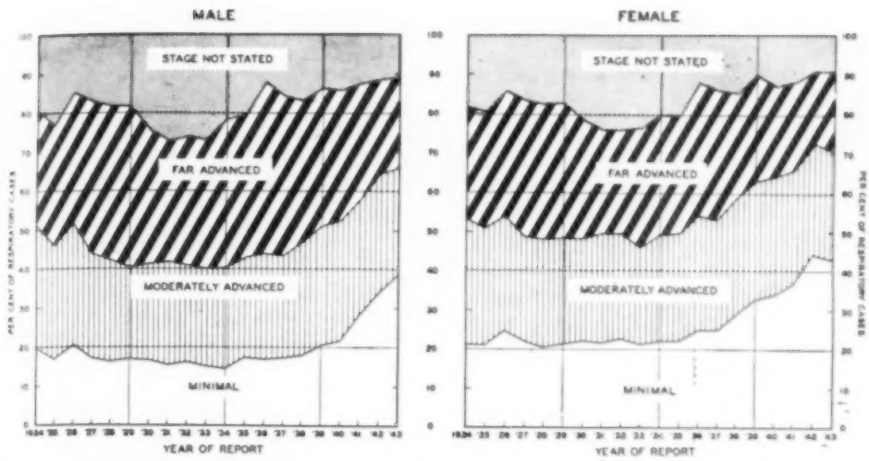

FIGURE 2—Percentage distribution of reported cases of respiratory tuberculosis by stage of disease, according to sex, New York State, exclusive of New York City, 1924–1943

males in recent years, the number in 1943 being 156 per cent higher than that in 1939 before the increase began. It was largely the increase in minimal cases which accounted for the increase in the total number of cases among males.

Even more striking is the change in the *relative* number of minimal cases among males, as shown in Table 2 and Figure 2. During the 16 years from 1924 through 1939 the percentage of minimal cases among males remained constantly at or below 20 per cent of the total cases in this sex group. Then, the percentage increased each year from 21.8 in 1940 to a peak of 38.0 in 1943. The proportion of minimal cases was thus almost doubled in the last 5 years.

TABLE 2

Percentage Distribution of Reported Cases of Respiratory Tuberculosis by Stage of Diseases, According to Sex, New York State, Exclusive of New York City, 1924–1943

	Male					*Female*				
Year	*Total*	*Minimal*	*Moderately Advanced*	*Far Advanced*	*Stage Not Stated*	*Total*	*Minimal*	*Moderately Advanced*	*Far Advanced*	*Stage Not Stated*
1924	100	19.9	31.4	29.3	19.3	100	21.2	31.8	28.9	18.1
1925	100	16.7	29.2	31.3	22.8	100	21.0	29.8	29.3	19.8
1926	100	20.8	31.2	33.4	14.7	100	24.7	29.3	31.4	14.6
1927	100	17.2	27.0	39.1	16.7	100	22.1	26.6	35.0	16.4
1928	100	16.1	26.1	40.0	17.8	100	20.1	27.8	34.8	17.3
1929	100	16.9	23.6	41.6	17.9	100	21.2	27.1	34.8	17.0
1930	100	16.6	24.6	34.4	24.4	100	22.2	25.7	30.1	22.0
1931	100	15.6	26.4	31.6	26.4	100	21.6	28.0	26.2	24.2
1932	100	16.2	24.6	33.5	25.6	100	22.6	27.1	26.1	24.2
1933	100	15.2	24.8	33.8	26.1	100	21.1	24.8	30.2	23.8
1934	100	14.8	25.3	38.4	21.5	100	22.2	27.2	30.5	20.1
1935	100	17.4	25.6	36.5	20.5	100	22.4	27.4	29.8	20.4
1936	100	16.8	27.4	43.3	12.5	100	24.8	29.5	33.7	12.0
1937	100	17.1	26.7	40.8	15.3	100	24.8	28.8	32.5	13.9
1938	100	18.1	28.8	36.1	17.1	100	28.7	28.8	27.7	14.8
1939	100	20.3	31.0	35.3	13.4	100	32.7	30.6	26.6	10.1
1940	100	21.8	31.1	33.0	14.0	100	34.0	30.8	22.3	12.9
1941	100	28.4	29.6	29.1	13.0	100	37.1	28.6	22.4	11.9
1942	100	34.1	30.7	23.5	11.7	100	44.3	28.4	17.9	9.4
1943	100	38.0	27.9	23.1	11.0	100	42.6	28.0	20.0	9.4

Among females, the increase in the total number of cases in 1942 was also due largely to an increase in minimal cases, and in this sex group too there was an increase in the percentage which the minimal cases constitute of the total cases, except that the increase began earlier than that among males. In females the percentage of minimal cases was below 25 per cent from 1924 through 1937. It then rose from 28.7 per cent in 1938 to a peak of 44.3 in 1942, decreasing slightly in 1943 (Table 2 and Figure 2).

These changes in the percentage of minimal cases obviously must be considered in relation to the percentage of cases in the other stages.

In males the number of moderately advanced cases was higher in 1942 and 1943 than in the preceding several years. In females there was a very slight though not significant increase in moderately advanced cases in 1942.

However, the *percentage* of moderately advanced cases in both sex groups has remained fairly constant between 25 and 30 per cent, not only in the recent years, but during the entire 20 year period (Table 2).

The actual number of far advanced * cases in both sex groups decreased only slightly during the last few years (Table 1), but their relative number, or percentage, showed a definite decrease. In males the percentage of far advanced cases prior to 1940 was generally above 35 per cent, whereas in 1942 and 1943 it was only about 23 per cent. Similarly, in females, prior to 1938 this percentage was generally above 30, with a decrease to 18 per cent in 1942 and 20 per cent in 1943 (Table 2).

These decreases in the percentage of far advanced cases, in the light of the increases in the total number of cases reported, represent an encouraging trend, of course.

The group designated as "stage not stated" requires some explanation. This term is partly a misnomer because the group includes not only those cases with parenchymal disease of the reinfection type for which the stage was not specified, but also other respiratory cases to which a classification according to stage of disease is not applicable, such as tuberculous pleurisy, tuberculosis of the trachea or bronchi, and others.

From 1924 through 1935 all cases of primary tuberculosis ("juvenile tuberculosis," "hilum tuberculosis," "childhood tuberculoses," etc.) were included in the "stage not stated" group. Since 1936 such cases have been excluded entirely from the respiratory cases, except that in 1938 they were erroneously so tabulated and placed in that year among those with "stage not stated."

In addition to these changes in the method of tabulating cases of primary tuberculosis, during the 20 years there were also changes from time to time in the degree of emphasis placed upon the reporting of such cases. For example, a recommendation by the Division of Tuberculosis in 1932 that cases of healed primary tuberculosis should not be reported was followed by a steady decrease in their number in the next few years.

Among males the number of cases in the "stage not stated" group increased slightly in 1942. However, in both sex groups, the percentage of such cases decreased in the recent years. As indicated above, the changes in the size of this group of cases were partly due to changes in administrative recommendations regarding reporting and in statistical methods of tabulation. However, the latter factors did not account for the remarkable reversal in the trend of the minimal cases, not only because of the extent and duration of that reversal but also because the administrative changes did not occur at the time of the reversal.

Cases according to stage of disease and age

A study of the distribution of the minimal, moderately advanced, and far advanced cases in each sex group ac-

* This group includes cases of acute miliary tuberculosis.

cording to the age at the time of reporting reveals not only further details concerning the recent trends in early diagnosis but also certain important age and sex characteristics of tuberculosis morbidity in general.

In classifying the cases according to age, the group 20–34 years of age was included in order to determine whether the reporting of cases in this group was affected by the large-scale chest x-ray examinations of candidates for the armed forces in recent years.

Minimal cases—Figure 3 shows the

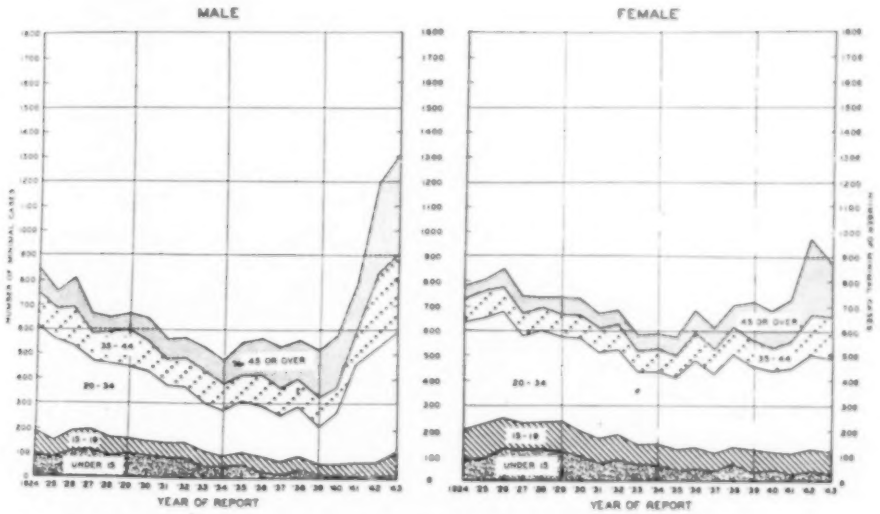

FIGURE 3—Number of reported cases of *minimal* respiratory tuberculosis by sex and age, New York State, exclusive of New York City, 1924–1943

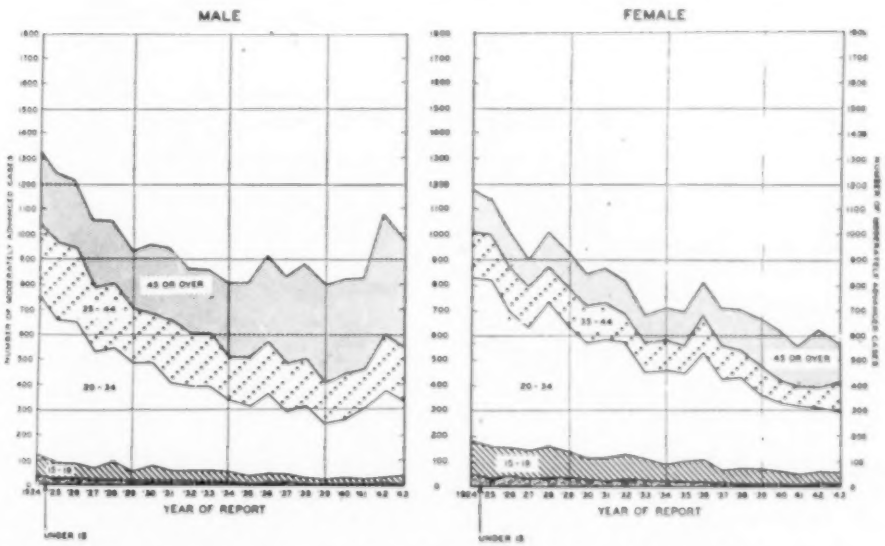

FIGURE 4—Number of reported cases of *moderately advanced* respiratory tuberculosis by sex and age, New York State, exclusive of New York City, 1924–1943

number of minimal cases in each sex group, on a cumulative basis by age. The topmost curve represents the total number of minimal cases reported and thus corresponds to the curve for minimal cases in Figure 1, though the vertical scales in these two graphs are different.

The salient facts revealed by Figure 3 are the following:

1. Prior to 1941 there were more minimal cases among females than among males.

2. As previously mentioned, in 1941 there was a sharp and striking increase in the number of male cases which continued progressively during 1942 and 1943.

3. The data for the separate age groups in males indicate that the increase in the total number of minimal cases in the last 3 years was due largely to (a) a marked increase in the number of cases in the 20–34 age group, and (b) smaller increases in 1942 and 1943 in the number of cases in the 35–44 and the 45-or-over age groups.

4. Among females the total number of minimal cases showed an irregular trend through 1941, then increased sharply in 1942, and remained comparatively high in 1943, though lower than in 1942.

5. In contrast to the situation among males, the minimal cases in females in the age group 20–34 did not increase in 1942 and 1943 when the total cases increased. Rather, the increases were in the age groups over 35.

The foregoing differences between males and females in the extent and the age characteristics of the recent change in minimal cases represent one of the highlights of this study.

Moderately advanced cases—Figure 4 shows the number of moderately advanced cases in each sex group, on a cumulative basis by age. The topmost curve represents the total number of moderately advanced cases reported.

1. In contrast to the sex distribution of minimal cases, the number of moderately advanced cases among males was higher than that among females in practically all of the 20 years.

2. As previously noted, the total number of moderately advanced cases increased appreciably among males in 1942 and 1943, and slightly among females in 1942.

3. The increase in the total number of moderately advanced cases in males was due to approximately equal relative increases in all three of the age groups over 20.

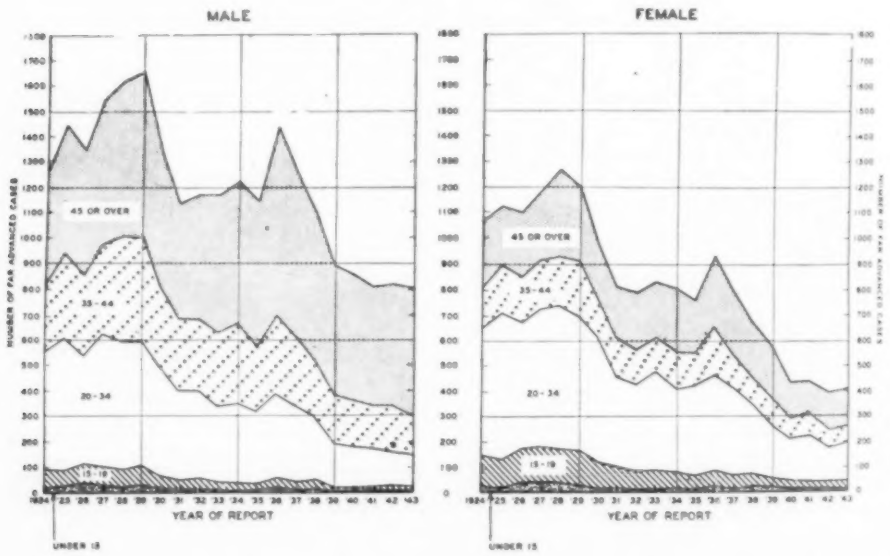

FIGURE 5—Number of reported cases of *far advanced* respiratory tuberculosis by sex and age, New York State, exclusive of New York City, 1924–1943

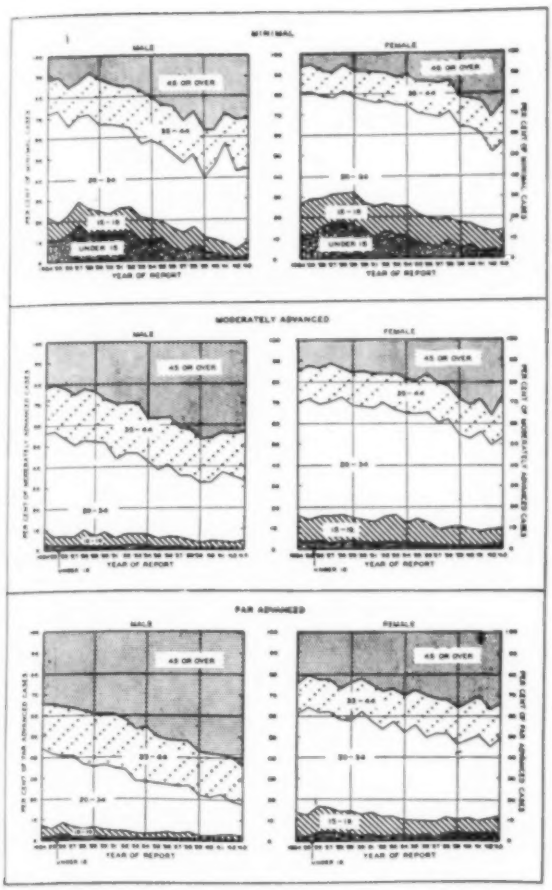

FIGURE 6—Percentage distribution by age of reported cases of respiratory tuberculosis in each stage of disease, according to sex, New York State, exclusive of New York City, 1924–1943

4. The slight increase in the number of female cases in 1942 was due almost entirely to an increase in the number of cases among those 45 years of age or over.

Far advanced cases—Figure 5 shows the number of far advanced cases in each sex group, on a cumulative basis by age.

1. Throughout the 20 year period, the number of far advanced cases among males was considerably higher than that among females.

2. In contrast to the trend of minimal and of moderately advanced cases, there was no increase in the last few years in the number of far advanced cases. However, the decline in far advanced cases which began after 1936 was apparently retarded somewhat in the last 3 years, and this occurred in both sexes in the three age groups over 20.

Age distribution of reported cases—Figures 3, 4, and 5 show the trend of the number of cases in each age group, but they also indicate in general the *relative number* of cases in each age group. In order to present this characteristic of reported cases on an actual proportionate basis, Figure 6 depicts the percentage distribution by age of the cases in each sex group, in each of the three stages of disease. These data do not, of course, represent age-specific annual case incidence rates, since they are not related to the corresponding age composition of the population of the area concerned. They are nevertheless important because they show the

changes in age distribution of cases over a period of years and differences in age according to sex and stage of disease.

In general, respiratory tuberculosis is now primarily a disease of adults. This is shown by the downward slopes of most of the age curves in Figure 6, indicating that there has been a progressive increase in the percentage of cases in the older age groups, particularly in males. In part, this may be due to the progressive "aging" of the population.

In all three stages most of the cases in males occurred during the most productive industrial periods of life and in females during the childbearing period. Comparing the two sexes, there was a higher percentage of cases in males over 35 years of age than in females over 35, and this difference was progressively more marked as the stage of the disease became more advanced.

As for persons under 15 years of age, the relatively minor frequency of respiratory tuberculosis in this age group is clearly indicated in Figure 6.

DISCUSSION

From the standpoint of the trend of reported cases, the most important finding is that, following a period of 16 years of practically uninterrupted decline in the number of reported cases in males, a reversal of this trend occurred in the last 4 years of the 20 year span included in the study; among females, a similar though less marked change in trend occurred in the last 2 years of the period. In relation to the population of the area during the 20 year period, the annual *case rates* followed a pattern resembling that of the number of cases.

It is of interest to examine the possible reasons for the change in trend of reported cases. In the first place, it was not due to any change in statistical or clerical procedures in connection with case reporting. Second, it is unlikely that the increase in cases among males in the last few years represents merely a chance fluctuation which might occur from year to year, because of the extent and duration of the change. As for the recent increase in cases among females, although the increase in number of cases in 1942 is not a statistically significant deviation, the character of the change leads to the belief that it is also not merely a chance fluctuation.

An important question which arises is whether the dislocations of life due to the war have resulted in an increased *rate of development* of new cases of tuberculosis. There is as yet no direct evidence bearing on this question, and further observations will be necessary in order that any effects of the war upon the incidence of tuberculosis may be fully evaluated. However, it is believed that the recent increase in reported cases has been primarily due rather to an increased *rate of discovery* of cases.

For one thing, the change in trend among males began in 1940, that is, prior to the time when any possible effect of wartime conditions upon the development of tuberculosis would have been expected to become manifest.

The best support for the belief that increased case finding was largely responsible for the increase in the number of cases reported is that the latter occurred during a period when there was a marked extension of case finding through mass chest x-ray examinations of apparently healthy groups of the population.

Furthermore, there is evidence that it was the routine chest x-ray examination of candidates for the armed forces at induction stations and otherwise which contributed greatly to the increase in the number of cases reported, for the greatest increase occurred among males, and the increase in this sex group was due largely to an increase in minimal cases in the age group 20–34,

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which contains the vast majority of the men examined for the armed forces.

On the basis of available data it is estimated that over 500,000 residents of upstate New York had a chest x-ray examination as candidates for the armed forces during the period 1940 through 1943. A partial measure of the effect of these examinations upon the reporting of cases is available.

The reports of all newly reported cases among males in the age groups subject to military service have been checked routinely in the Division of Tuberculosis against a special index file of all men disqualified at induction stations because of tuberculosis. This serves to identify those reported cases who were initially diagnosed as having tuberculosis at the time of their induction station examination and who were *subsequently* reported for the first time as cases.*

This procedure has revealed that about 40 per cent of the reported cases among males in the age groups subject to military service were initially diagnosed as having tuberculosis at the time of an induction station examination. Because of the incompleteness of some of the records pertaining to examinations by the armed forces, it is probable that these examinations actually led to the reporting of a higher proportion of cases than is indicated by the foregoing figure. In considering the wartime increase in reported cases in England and Wales, Stocks[1] estimated that about one-half of the increase resulted from the "exigencies of national service."

There is thus strong evidence that routine chest x-ray examinations by the armed forces contributed in large part to the increase in the number of reported cases in males. However, other types of mass surveys also undoubtedly played a part, since age groups older than those represented in the armed forces examinations also shared in the increase in cases. For example, mass surveys of industrial workers have been conducted on a steadily increasing scale since 1942. In fact, it is likely that the increase in cases in females in 1942 and 1943 was partly, if not largely, due to such industrial surveys, since it is known that large numbers of women have been employed in various war industries and have thus become available for group examination. In this connection, it is significant that the increase in female cases in 1942 and 1943 occurred mostly in the minimal group in those over 35 years of age.

Because the vast majority of cases found in mass surveys are without symptoms, it is probable that most of the cases so discovered would not have been diagnosed until later years. As pointed out by Stocks and Lewis-Faning,[2] this aspect of the increase in reporting is related to the important matter of the occurrence of deaths from tuberculosis among persons not previously reported as cases. One would expect that an increase in reporting would be followed by a compensating decrease in the deaths of unreported cases. But in neither England and Wales nor in upstate New York has this occurred as yet. Rather, in both areas there has been a slight increase above the pre-war proportion of about 20 per cent of all tuberculosis deaths. Stocks and Lewis-Faning suggest that in England and Wales the reason may be that many immigrants have come there from countries where tuberculosis incidence is high, and also that excessive movement of the population has led to more people escaping "notification."

If it is accepted that mass surveys played an important part in the increase in the reporting of cases, the

* This procedure is different from the routine of checking all induction station notices of tuberculous rejectees against a master file of reported cases to identify those who have been reported as cases *prior* to the induction station examination.

fact that the increases in both sex groups occurred largely in the minimal group provides further evidence of the tremendous value of this method of case finding. Indeed, between 50 and 60 per cent of the cases discovered in various types of mass surveys are in the minimal stage.

On the other hand, as far as the *proportionate* distribution of cases according to stage is concerned, an improvement in the percentage of minimal cases began *before* extensive mass surveys were started (Figure 2): in males in 1940 and in females in 1938. This would indicate that in case finding methods other than through mass surveys there has also been an improvement in early diagnosis. Mattison[3] has recently called attention to some of the factors which affect the early diagnosis of pulmonary cases.

Considering the data for the entire 20 year period, the actual relative increase in recent years in the proportion of minimal cases reported has undoubtedly been even greater than the figures indicate, because the degree of diagnostic accuracy in recent years, particularly as a result of the more extensive use of x-ray examination, is certainly higher than it was ten or fifteen years ago. Consequently, formerly there were probably many cases reported as minimal which on the basis of modern diagnostic procedures were actually moderately or far advanced; that is, the *true* proportion of minimal cases among those reported was formerly probably lower than that recorded. Conversely, it is unlikely that any appreciable number of cases reported in the earlier years as advanced were actually minimal in extent.

SUMMARY

1. From 1924 through 1939 in males, and from 1924 through 1941 in females, there was an almost steady decline in the annual number of cases of respiratory tuberculosis reported in New York State, exclusive of New York City.

2. Among males a striking reversal in this trend began in 1940, reaching a peak in 1942, during which year the number of cases was 38 per cent higher than that in 1939.

3. Among females a less marked increase in reporting began in 1942, when the number of cases was 12 per cent higher than in 1941.

4. The increase in the total number of cases among males was due largely to an increase in minimal cases in the age group 20–34.

5. The increase in the total number of cases among females was due largely to an increase in minimal cases in the age groups over 35.

6. These changes in trend were not due to any changes in clerical or statistical procedures.

7. It is believed that the changes were probably due largely to the *discovery* of more cases rather than to the *development* of more cases, and that case finding through mass chest x-ray examinations contributed in large part to the reversal in trend, with the routine examination of candidates for the armed forces being a dominant factor among males.

8. During the period of the reversal in trend the increases in the number of cases occurred largely in the minimal group, but an upward trend in the *proportion* of minimal cases had already begun prior to the increase in the total number of cases, indicating an improvement in early diagnosis independent of the influence of mass surveys, but without doubt greatly impelled in the later years by mass methods of case finding. From a previous stationary level of about 20 per cent, the percentage of minimal cases in males increased to 38 per cent in 1943, and in females the corresponding change was from a level of about 25 per cent to 44 per cent in 1942. These changes were accompanied by a decrease in the percentage of far advanced cases.

9. Analysis of the age and sex characteristics of respiratory cases indicates that this form of tuberculosis is now primarily a disease of adults and that it occurs in both sexes during the period of greatest social and economic significance.

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Prevalence of Rheumatic Heart Disease in Denver School Children

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RHEUMATIC heart disease is now the first cause of death, excepting accidents, among children aged 10 to 14 in Colorado and in the United States. Indeed, for the entire age group 5 to 19 during 1939–1942 in Colorado, rheumatic heart disease was first,* while in the United States as a whole this position was occupied by tuberculosis.

Although the relative standing of states and cities changes slightly from time to time, during 1939–1942 Colorado led all other states in deaths from this disease among children aged 5 to 19 (Figure 1).

Denver had the second highest death rate from rheumatic heart disease at ages 5 to 14 among the 25 largest cities in the United States during 1939 and 1940.†

A report [1] on rheumatic fever in Army Air Force Camps in the United States has called attention to the surprising amount of this disease at stations in the western states. Hedley [2] had previously noted the high mortality from heart disease in these states. As far as military forces in the Denver area are concerned, this was a temporary phenomenon. The camps which had so much rheumatic fever in 1943–1944 have practically none in 1944–1945. The reason for this is not entirely clear, but at least four factors must be considered: (1) seasoning of troops, (2) decrease in the rate of introduction of susceptible new recruits, (3) absence of a virulent epidemic streptococcus, and (4) sulfa prophylaxis.

Among children in Denver there has been no apparent decrease in the amount of rheumatic fever. During January, February, and March, 1944, there were in Denver hospitals 50 children under age 20 with rheumatic infections. During a similar period in 1945 there were 76 in the same hospitals, or a 52 per cent increase

TABLE 1

Persons Under Age 20 with Rheumatic Heart Disease, Rheumatic Fever, and Chorea in Denver Hospitals During January, February, and March, 1944, Compared to 1945

	1944	*1945*	*Percentage Increase*
Childrens' Hospital *	23	35	52
Colorado General *	15	22	47
Denver General †	12	19	58
Total	50	76	52

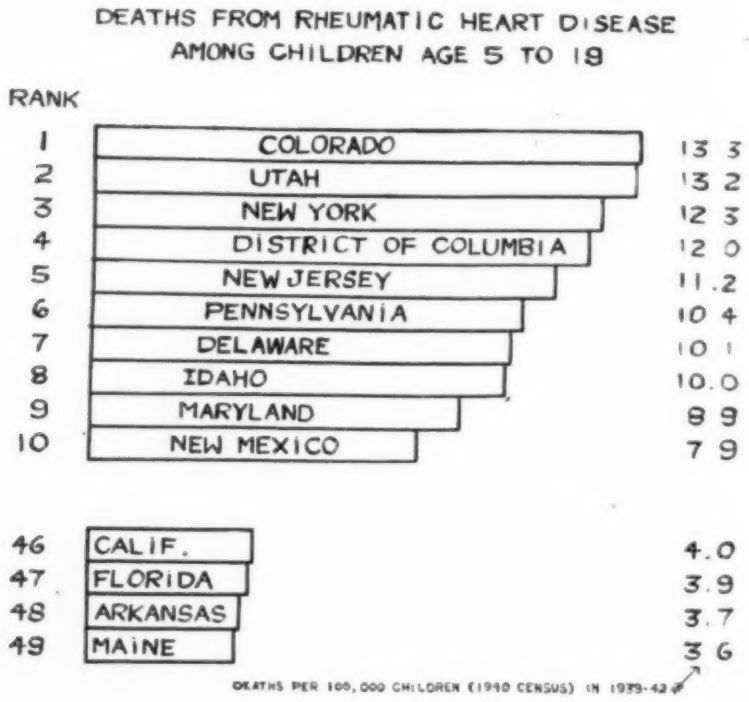
* Admitted during these months
† Discharged during these months

In March, 1944, a survey conducted by the Colorado Coördinating Council for Crippled Children showed only one rheumatic patient under age 20 hospitalized elsewhere than in these 3 hospitals.

* Calculated from U. S. Census 1940 and U. S. Vital Statistics 1939–1942, for *International List of Causes of Death* numbers 58, 90a, 92b, 92c, 93c, 95b.

† Calculated from Table 6. Deaths from Selected Causes, by Age, by Place of Residence, Each City of 100,000 Population or more in 1940. *Vital Statistics of the United States.* Supplement 1939–1940. Part III. U. S. Dept. of Commerce, Bureau of the Census.

FIGURE 1


DEATHS FROM RHEUMATIC HEART DISEASE
AMONG CHILDREN AGE 5 TO 19
RANK
1 COLORADO 13 3
2 UTAH 13 2
3 NEW YORK 12 3
4 DISTRICT OF COLUMBIA 12 0
5 NEW JERSEY 11.2
6 PENNSYLVANIA 10 4
7 DELAWARE 10 1
8 IDAHO 10.0
9 MARYLAND 8 9
10 NEW MEXICO 7 9
46 CALIF. 4.0
47 FLORIDA 3.9
48 ARKANSAS 3.7
49 MAINE 3 6
DEATHS PER 100,000 CHILDREN (1940 CENSUS) IN 1939-42

(Table 1). What part of this increase is attributable to the activities of the Denver Area Rheumatic Fever Diagnostic Service is unknown. This diagnostic service, financed by the Junior Community Chest and sponsored by the Denver Public Health Council, was opened in September, 1944.

A SURVEY OF HEART DISEASE IN DENVER SCHOOL CHILDREN

Medical examination of school children is frequently used to determine the prevalence of heart disease. Summaries of such studies have been given by other authors.[3, 4]

One difficulty with surveys of heart disease in the schools is that the results depend so much upon the method employed. There are at least three possibilities: (1) all examinations are made by one or more physicians who are particularly trained in the cardiac examination of children, (2) all children are first examined by school physicians, and all possible cases of heart disease sent for final diagnosis to a central cardiac clinic or to a physician or physicians particularly interested in heart disease, and (3) all data are based on cardiac abnormalities as recorded in the course of routine physical examinations performed by many different school physicians without particular attention being paid to the heart.

The number of children found to have rheumatic heart disease will be much larger with method 1 than with method 2. Method 3 is apt to yield erratic results. This has been well discussed by Dublin,[5] Paul,[6] and Rutstein.[7] Paul[8] found in New Haven a rate of 38.5 per 1,000 by the first method and only 11.4 by the second.

The senior author has had the opportunity of participating in the use of method 1 and also method 2 in Denver during 1944 and 1945. The comparative results provide an interesting contrast.

Two methods were used:

1. All children were examined by one physician particularly interested in rheumatic heart disease (BGW). All but four of the positive diagnoses were confirmed by a second physician or by the Diagnostic Service. These four students were inaccessible for a confirmatory examination. In this fashion, 1,845 girls were seen in the Denver Junior and Senior High Schools. In some schools a majority of the girls in certain grades were examined. In others, there were only girls who had applied for swimming or gymnasium classes. There were about 300 of these. Their inclusion of course tends to decrease the overall percentage which was found to have heart disease because those with known cardiac defects are not apt to apply for gymnastic activities.

2. Other school physicians examined 1,318 boys and girls and screened out 143 with possible heart disease. Of these 143, 114 were then reëxamined by one of us (BGW). For statistical purposes in computing the percentage of heart disease, the total number of children sampled was considered to be 114/143 of 1,318 or 1,051. The 29 who were not reëxamined did not include a disproportionate number of cardiac abnormalities. They had been graduated, transferred, or were not available for miscellaneous reasons.

CRITERIA OF DIAGNOSIS

All children were examined supine with the chest bare. Most of them were also examined in the left lateral position, after exercise.

Rheumatic Heart Disease—A diagnosis of definite rheumatic heart disease was made only in the presence of one or more characteristic murmurs, with the exception of one case of adhesive pericarditis. A high pitched rather harsh systolic murmur at the apex transmitted toward the axilla, increased after exercise, heard best through the diaphragm of a Rieger-Bowles stethescope, with the patient lying on the left side, was, considered the murmur of mitral insufficiency. The diagnosis of possible early mitral stenosis was made in the presence of a low pitched mid-diastolic murmur accompanying mitral insufficiency. The presence of a low pitched rumbling diastolic murmur with presystolic accentuation was considered diagnostic of mitral stenosis. A blowing high pitched diastolic murmur heard best along the left sternal border was taken as aortic insufficiency. A harsh systolic murmur over the aortic area with a thrill over the carotid arteries accompanying a diminished aortic second sound in the presence of aortic insufficiency was considered possible aortic stenosis.

Congenital Heart Disease — This diagnosis was made when the findings were characteristic of a known type of congenital lesion. There was one case of patent ductus arteriosus, one of coarctation of the aorta, and one with an interventricular septal defect. Two cases with a very loud harsh systolic murmur at the base without a thrill were also included although the exact nature of the lesion could not be determined without further studies. There were no cyanotic cases.

Possible Rheumatic Heart Disease—In this class were put all children without characteristic murmurs in whom rheumatic heart disease was nevertheless suspected. Children with accentuated slapping first sounds, those with muffled distant first sounds, and those with markedly slurred first sounds were sometimes called "possibles," especially if there were a past history

of rheumatic fever. Those in whom cardiac hypertrophy seemed present clinically were placed in this category. Those with soft systolic murmurs over the pulmonic area or left sternal border were not included regardless of pitch. Medium or low pitched systolic murmurs at or just within the apex, were ordinarily not considered, regardless of the effect of exercise. However, some with a past history of rheumatic fever were classified as "possibles." Tachycardia by itself was not considered diagnostic although a few such children were classified as having possible active rheumatic carditis because of low grade fever. No significance was attached to third heart sounds. It has been noted that somewhat loud slurred third heart sounds in children can be confused with early mid-diastolic murmurs.

Possible Congenital Heart Disease—A few patients with rather harsh systolic murmurs over the base and one or two with loud high pitched late systolic murmurs were placed in this group.

RESULTS AND DISCUSSION

The types of heart disease found are summarized in Table 2. Table 3 shows that the amount of heart disease discovered in Denver varied with the method employed. Method 1 yielded 16.3 cases of definite rheumatic heart disease per 1,000 children examined and method 2 only 4.8.

TABLE 2

Types of Rheumatic Heart Disease in 1,845 Denver High School Girls

Types	*Number*
Mitral insufficiency	17
Aortic insufficiency	3
Mitral insufficiency and stenosis	2
Mitral and aortic insufficiency	1
Mitral stenosis	1
Mitral stenosis and aortic insufficiency	1
Mitral stenosis and insufficiency and aortic insufficiency	2
Old adhesive pericarditis	1
Type not recorded	2
Total	30

TABLE 3

Prevalence of Heart Disease in Denver School Children, Showing That the Results Depend Upon the Method Employed

	Method 1 *All Examinations by B.G.W.*	*Method 2* *Screened Cases Examined by B.G.W.*
Number examined	1,845 girls	1,051 †
Rheumatic heart disease *	16.3	4.8
Possible rheumatic heart disease *	18.4	7.5
Congenital heart disease *	2.7	none
Possible congenital heart disease *	3.8	5.7

* Rate per 1,000 children examined
† Boys and girls

This finding has caused us to re-examine various school surveys reported in the literature with a view to classifying them in regard to methodology. Several illustrative surveys are so classified in Table 4. The difference between the two types of survey is striking. Method 1 reveals much more heart disease. It is evident that we need to revise upward our estimates of the amount of rheumatic heart disease in school children. Instead of thinking in terms of 2 to 15 cases per 1,000 children, we need to think of 15 to 40. This rate is similar to that of 20 per 1,000 which existed in London in 1926 prior to the start of a "rheumatism scheme" which by 1938 was credited with being largely responsible for reduction of the rate to 8 per 1,000.[9] The exceptions to this rate of infection are likely to be only in the climatically favored sections of the country, illustrated in Table 4 by Redlands in southern California, and southern Arizona.

The authors feel that the rate of 16.3 per 1,000 school girls aged 12 to 19 in Denver is too low, for three reasons:

1. There was some artificial selection of children caused by the inclusion of about 300 girls applying for gymnasium and swimming permits. It is less likely that cardiac patients would make such application.

TABLE 4

Prevalence of Heart Disease in School Children as Determined by Method 1, Direct Examination; and by Method 2, Preliminary Screening

Survey	Reference	No. of Children Examined	Age	Sex	Rheumatic Heart Disease per 1,000		Congenital Heart Disease per 1,000	
					Method 1	Method 2	Method 1	Method 2
Denver	....	1,845	12–19	girls	16.3	...	2.7	...
Denver	....	1,051	12–19	boys and girls	....	4.8	...	0
Eureka, Calif	(3)	2,450	5–19	boys and girls	20.0	...	0.7	...
Redlands, Calif		2,635	5–19	boys and girls	3.8	...	0.8	...
Southern Ariz. Indians	(10)	1,019	5–19	boys and girls	5.0	...	...	...
Benson, Ariz.	(11)	690	?	boys and girls	10.0	...	...	...
New Haven & Hamden	(6)	1,836	mostly 12–14	boys and girls	25.0	...	...	...
Industrial cities—Conn.	(12)	918	12–14	boys and girls	41.0	...	...	...
Mont. & Wyo. Indians	(10)	688	5–19	boys and girls	45.0	...	...	...
Cincinnati	(13)	5,623	12–19	boys and girls	....	5.2	...	2.3
Philadelphia	(14)	33,293	6–18	boys and girls	....	5.0	...	0.9
Boston	(15)	119,337	5–19?	boys and girls	....	4.5	...	0.5
Louisville	(16)	41,905	6–15	boys and girls	....	3.6	...	1.6
San Francisco	(17)	13,338	6–18	boys and girls	....	2.2	...	1.4
Cincinnati	(18)	85,385	5–19	boys and girls	....	2.0	...	1.5

" Possible " rheumatic heart disease and " Possible " congenital heart disease omitted.

2. All " possible rheumatic heart disease " was not included. Had all these " possibles " been examined in the Denver Area Rheumatic Fever Diagnostic Service, some of them might have been relabeled as definite R. H. D.

3. When 527 girls were examined without selection in one of the high schools whose students came principally from a good residential district, the prevalence of rheumatic heart disease was 17.1 per 1,000. But among 285 girls in a high school located in an economically poor area, it was 31.6.

It has been stated " Where the death rates from rheumatic heart disease vary widely, it is not an unjustified assumption to consider that there is a corresponding variation in frequency or severity of rheumatic fever or of both frequency and severity." [19] It seems to us that the frequency in Denver is not unusual, but that the disease may be more severe.

Another interesting aspect derives from the fact that no diagnosis of rheumatic heart disease had been previously made in 17 of the 30 children found by method 1. If the entire population aged 5 to 19 years were to have 16.3 cases of rheumatic heart disease per 1,000, and 17/30 of them be unrecognized, there must be some 639 undiagnosed cases in the city of Denver. It should be noted that this figure includes only cases of inactive rheumatic heart disease. Inclusion of those children with active rheumatic fever and those with a history of rheumatic fever would increase the total.

The above experience is similar to that of the Rheumatic Fever Diagnostic Service. In 6 months time, 91 children were seen with active rheumatic fever or inactive rheumatic heart disease. Among these 91, there were 42 previously unrecognized cases and an additional 11 who had either inadequate medical supervision or had ceased visits to a physician.

SUMMARY

1. The prevalence of rheumatic heart disease in Denver high school girls was found to be 16.3 cases per 1,000 children examined.

2. This prevalence is no more than would be expected in many large northern cities when all the cardiac examinations are made by a physician familiar with, and on the lookout for, signs of rheumatic fever and rheumatic heart disease.

3. Although the amount of rheumatic fever in Denver does not seem to be unusual, the death rate is disproportionately high.

4. Slightly more than half of the rheumatic children discovered in this school survey and in the Rheumatic Fever Diagnostic Service were new, previously unrecognized cases.

5. When a cardiac survey is conducted by reëxamining only those children reported to have cardiac abnormalities as discovered by school physicians in the course of routine school physical examinations, which examinations are performed by many different physicians and without particular attention being paid to the heart, then the prevalence of rheumatic heart disease found is likely to be one-third or less of the true amount.

6. It is suggested that public health officials, in all except the climatically favored southern part of the United States, revise upward their conception of the amount of rheumatic heart disease in school children. Instead of considering that 2 to 15 school children per 1,000 have definite signs of rheumatic heart disease, we need to think in terms of 15 to 40.

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A Public Health Rôle for the Laundry

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IN 1938 the department of health of the State University of Iowa authorized a procedure whereby the isolation ward of the hospital forwards all washable articles to the University laundry without any preliminary disinfection whatsoever. This is true regardless of whether these articles have been contaminated by cases of typhoid, scarlet fever, smallpox, or any other disease which may happen to be cared for in the ward. By this action a general laundry was definitely incorporated into the routines of a department of health. The results during the ensuing years have been highly satisfactory, and the procedure is now on a permanent basis. The purpose of this paper is to call to the attention of health officers generally the feasibility of developing a similar type of service for their communities, especially serving households under quarantine for communicable diseases.

Among the cardinal principles of preventive medicine as applied to the control exercised over cases of diseases transmissible from person to person via bodily discharges is that of concurrent disinfection. Through this means an attempt is made to destroy infective material as completely as possible at its source, never permitting it to get beyond our control. As applied to washable articles from isolation hospitals and quarantined homes, this has been interpreted to mean that all contamination therein must be destroyed by appropriate measures, such as boiling or soaking in a disinfecting solution before they can be removed from the area. The basic principle is sound, but the interpretation is not necessarily so. In fact, when one observes the difficulties involved in carrying out this disinfection in homes unprepared for it and by individuals untrained for it, the need for finding a better way becomes imperative. When carried out by inexperienced persons, either boiling or the use of disinfecting solutions may fail to destroy pathogenic organisms. Woolens and colored garments cannot be boiled without damage due to shrinkage or color runs. Initial boiling will result in permanent stains from blood or albuminous materials which may be present. Even at best, the method is messy and difficult to control in a sanitary manner. In small apartments such quarantine restrictions are classifiable only as a calamity.

It so happens that the procedures employed by commercial laundries to render garments clean and attractive include some which are highly effective in removing and destroying vegetative microbic forms. By utilizing these measures it is quite feasible to include these laundries in the public health armamentarium by solving two general problems. These are:

1. Insuring that laundering procedures known to be effective in destroying microbic forms are followed.
2. Insuring the sanitary handling of the contaminated articles until they have been freed of their contamination.

The laundering processes which remove bacteria are the use of soap and

of detergents, which loosen soil from the fabrics, and the repeated changes of water (9 or more in the high temperature process) which carry away the soil and any bacteria therein.

The laundering processes which are capable of destroying microbic life include the following, as used in one or other of the standard procedures recommended by the American Institute of Laundering. Although aimed at other objectives, each of them can be controlled quite readily to contribute its maximum toward the destruction of pathogens, if this result is desired. Five such measures may be listed.

1. *Exposure to hot water*—In the high temperature process to which fabrics such as bed linen are subjected, the water temperatures increase to 160° F., and remain in excess of this level for more than 25 minutes. This exceeds the thermal death point for most pathogenic organisms.

2. *Chlorination*—White clothes, during the bleaching process, are exposed to chlorine in a concentration of 100 p.p.m., which is a lethal level for microörganisms.

3. *Sudden and extreme changes of pH*—The detergents used at the beginning result in a marked alkalinity, the pH readings being 10.0 or even more. Within approximately an hour, this is changed to the definitely acid reaction of pH 4.0 to 4.5 through the addition of acid fluorides in what is called the "souring" process. These changes are highly injurious to any vegetative organisms which may be exposed to them.

4. *Exposure to high air temperatures*—In the fluff-driers the fabrics are exposed to air currents with temperatures in excess of 160° F. for 20 or 30 minutes.

5. *Exposure to high moist or dry heat during ironing*—Articles intended to be ironed are damp so that the first exposure is to steam generated in the fabric by the heat of the iron. Inasmuch as at the point of contact the temperature of the iron approximates 330° F., the fabrics may be transiently exposed to high dry heat.

The sanitary effectiveness of these various measures has been exhaustively studied by Arnold.[1] Relative to the high temperature process he found that the initial flush water showed an average bacteria count of approximately 200,000 per ml. This count declined rapidly during the various suds treatments, falling to 5 in the last suds, when water at 165° F. was used. Following the "souring" process, the water from these garments was sterile. In the low temperature process used in washing colored articles, the water temperatures never exceed 100° F. The initial flush water had a bacterial count averaging roughly 3,600,000 per ml. By the last rinse this had fallen to 24,000, and in the souring stage it fell to 158. These and other details are given in two of his tables which follow.

Relative to the above procedures, it may be of interest to point out that the bleach used is sodium hypochlorite to yield a chlorine concentration of 100 p.p.m. Souring to pH 4.0 or 4.5 involves the use of fluoride sours such as sodium acid fluoride, sodium silicofluoride, ammonium acid-fluoride, ammonium silico-fluoride. In the washing of diapers, boric acid is used after the souring operation to prevent chafing and skin irritation.

Articles which pass through either of these standard treatments are subjected to hot-air fluff or rough drying, or to ironing. These serve as final factors of safety in so far as sanitation is concerned. These studies show that even as ordinarily carried out and without being specifically directed toward achieving the purpose, the standard processes employed by commercial laundries can, and for the most part do, result in freeing the articles from all

TABLE 1

High Temperature Washing Formula (From Arnold [1])
White Clothes
(One Year—120 Experiments)

Operation	*Purpose*	*Temperature Degrees Fahrenheit*	*Holding Time Minutes*	*Average Bacterial Count per ml. Wash Water*
Flush	Wets cloth (removes surface soil)	110	5	200,428
1 Sud	Detergent (soap-alkali)	125	10	94,314
2 Sud	" " "	135	10	42,518
3 Sud	" " "	140	10	8,382
4 Sud	" " " Plus 1% Bleach	165–170	15	5
1 Rinse	Removes Detergent	165	3	1
2 Rinse	" "	165	3	0.5
3 Rinse	" "	165	3	0.4
4 Rinse	" "	165	3	0.2
After Sour	removes residual detergent	140	10	Sterile
Blue		110		

TABLE 2

Low Temperature Washing Formula (From Arnold)
Light Colored Clothes
Light-Colored Clothes—Finished Service
Dark-Colored Clothes
(One Year—120 Experiments)

Operation	*Purpose*	*Temperature Degrees Fahrenheit*	*Holding Time Minutes*	*Average Bacterial Count per ml. Wash Water*
Flush	Wets cloth (removes surface soil)	90–100	5	3,674,055
1 Sud	Detergent (soap-alkali)	100	10	1,979,862
2 Sud	" " "	100	10	1,248,758
3 Sud	" " "	100	10	255,579
4 Sud	" " "	100	10	221,293
1 Rinse	Removes Detergent	100	3	88,966
2 Rinse	" "	100	3	67,416
3 Rinse	" "	100	3	43,809
4 Rinse	" "	100	3	35,278
5 Rinse	" "	100	3	24,441
After Sour	removes residual detergent, brightens colors	95	5	158

traces of their original contamination. This being the case, it is quite possible to work out controls which will insure certainty in attaining this result. Such controls over water temperatures, time, chlorine concentrations, changes in pH, and others must be adjusted to the conditions under which any given plant operates. The degree of hardness of the water or the facilities for maintaining satisfactory water temperatures will affect the laundering processes which are required. Therefore, controls should be directed toward those specifically needed under the laundering procedures which are feasible in that particular plant.

In devising a safe method for handling the contaminated linen from the bedside to the interior of the laundry washer the following additional requirements have been met:

1. Instruction of the personnel who handle the contaminated articles.

2. Immunization of the personnel. Although under the procedures the nurse in the patient's room is the last person who is in contact with the linen, it is advisable to provide against possible breaks in technique either at the hospital or at the laundry. For this reason the laundry workers involved (in fact, all laundry workers) are given preemployment health examinations, including tuberculin tests and chest x-ray plates, Schick and Dick tests. All susceptibles are im-

munized against smallpox, typhoid fever, diphtheria and scarlet fever.

3. Arrangements for sorting at the isolation area, thus by-passing the sorting room at the laundry.

4. Arrangements for counting and marking to be carried out after the articles have been laundered, thus eliminating any exposure in these operations.

5. Collection of the articles in mesh bags or other suitable containers wherein they are laundered without removal therefrom.

6. Conveyance of these bags of contaminated articles to the laundry without contaminating objects or persons. This is done by using large baskets provided with canvas linings and covers within which the mesh bags are packed.

7. Method of loading the mesh bags into the laundry washer without contaminating any person or object. By using tongs, the mesh bags and finally the canvas protectors are removed into the washers.

Through these procedures the contaminated articles are moved, without danger to anyone, from the isolation area to the interior of the laundry washer. From that point the various controlled laundering procedures summarized above insure the complete destruction of any dangerous microbic forms therein. This detailed plan has been described by Heeren, Bradley, and Taylor [2] who participated in working it out. The results have been checked by bacteriological studies and the arrangement officially authorized by the University Department of Health.

Impressed with the satisfactory results of the arrangements just discussed, an additional use of the laundry was worked out whereby gauze reclamation was effected. This was begun in 1941 as a measure of war economy. Through this means the hospital saves some $200 per month in the purchase of gauze, thus releasing an equivalent amount for war needs. The used sponges are collected in mesh bags and deposited in specially marked heavy canvas containers. These are transferred to the laundry and placed in a washer in a manner similar to that which has been described. The mesh bags and their contents are laundered by a special procedure which includes high water temperatures and fluff-drying. The pieces of dried gauze are straightened out by hand, stretched upon special frames [3] in layers, and assembled into small bundles for return to the hospital. There they are folded to form sponges which, after proper autoclaving, are ready to be used again. The adequacy of these procedures has been shown by careful bacteriologic studies. It would be difficult to imagine material more heavily and more dangerously contaminated than is represented by the isolation linen and the blood-and-pus-saturated sponges which are handled routinely by the University laundry.

In all other respects this establishment operates as a public laundry. It handles approximately 100,000 pounds per week of articles of all sorts. It receives personal laundry from the internes, nurses, Army and Navy units on the campus. Bed linens and towels come from the hospitals and University dormitories. Table linen comes from the hospital and University dining services. Even diaper service is available to the obstetrics, pediatrics, and orthopedics departments, the total daily volume being approximately 200 pounds. The arrangements relative to isolation linen are permanent. Economic factors must determine whether gauze reclamation will continue after the war.

That it is possible to use the general laundry as a definite part of the public health armamentarium has been amply demonstrated by the more than seven years' experience in the operation of such a plan. Throughout this entire period, there has not occurred a single case of illness attributable to the contaminated material handled. If the laundry can be so utilized here, a

similar arrangement should be possible in any community where a public laundry exists and where the industry is willing to coöperate with the department of health. The procedures followed here can be adapted to individual homes. This would centralize the contaminated articles and permit the health officer to insure their sterility—something which he cannot be sure of doing under present conditions. That such arrangements would prove a great boon to quarantined households is obvious to anyone who has had such sickness in his own home.

SUMMARY

1. A board of health for seven years has included a general laundry in its armamentarium under established controls.

2. Under the procedures authorized, this laundry accepts contaminated linen from the isolation wards without prior disinfection, regardless of the nature of the contamination.

3. Under the procedures, this laundry accepts and reclaims used hospital sponges.

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Saving Permanent Teeth in School Children

The June, 1945, *News Letter* of Kansas State Board of Health tells of the dental health record achieved in school children of Baldwin City (population, 1,239). After 5 years' operation of the dental program recommended by Dr. Leon R. Kramer, Director of the Dental Hygiene Division of the State Health Department, not one permanent tooth was extracted among Baldwin City's 184 grade school children and only 16 among the 109 high school children. This result was accomplished by the coöperation of the town's one dentist, the public health nurse, the teachers and local organizations, and shows what teamwork can accomplish even in rural districts.

Distribution of Shigella in India as Determined by Spot Agglutination with Absorbed Sera*

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THE observations on bacillary dysentery herewith reported were made in India during the summer and fall of 1944 by the Subcommission on Dysentery, Commission on Tropical Diseases of the Army Epidemiological Board.

Laboratories adequately equipped for bacteriological diagnosis were set up in Army hospitals located at Calcutta and along the Ledo Road in Assam. The former station was representative of a densely populated urban area and serviced American troops, many of whom were quartered in semipermanent camps but were in close contact with a large Indian population. The latter station was representative of a sparsely populated rural area and serviced both American and Chinese troops, many of whom had been subjected to the primitive conditions of jungle fighting for considerable periods of time. With the exception of men living in fixed camps in this area, contact with Indians was much less than in the Calcutta area.

Data on the comparative incidence of *Shigella* in these two localities were collected from three sources, namely, patients admitted to the hospitals with diarrhea, dispensary admissions with the same complaint, and groups of soldiers on duty, some of whom had been exposed to preëxisting dysentery or undiagnosed diarrhea. The laboratory observations were mainly limited to cultures from American troops but also included a scattering of cultures from Chinese troops, Indian helpers, and Japanese prisoners of war.

In addition to furnishing data on bacillary dysentery, the present survey also served as a test of the technical procedures carried out under field conditions. In spite of a difficult environment, it is felt that accuracy within the limits of the methods employed was maintained throughout the survey.

The procedure employed by the Subcommission for the collection of material was essentially the well tried method of Hardy.[1] Cultures were made at the bedside or at the campsite by insertion into the rectum of a swab

* This investigation was supported in part by the Commission on Tropical Diseases, Board for the Investigation and Control of Influenza and Other Epidemic Diseases in the Army, Preventive Medicine Service, Office of The Surgeon General, U. S. Army.

enclosed in a short length of lubricated rubber tubing, the entire assembly having been sterilized in the autoclave. On withdrawal from the rectum the swab was immediately rubbed over the surface of a freshly prepared Petri dish of Shigella-Salmonella medium (Difco). Para-aminobenzoic acid in a concentration of 2 mg. per cent was added to the SS medium prior to the pouring of plates. In carrier studies which involved the culturing of several hundred men, the work was done by a team of three.

The inoculated plates were incubated at 37° C. for approximately 24 hours, and examined. Those which showed colorless or white colonies were saved, and up to five transfers from each plate made to double or triple sugar agar. After 18 hours or so of incubation those which showed a characteristic alkaline slant and gas-free acid butt were held for direct agglutination. If possible two slants were examined serologically. The surface growth was suspended in 0.25 ml. of saline solution and a 5 mm. loopful mixed with 0.05 ml. of diluted serum in a depression plate.[2] The outside temperature was sufficiently high so that agglutination if it occurred was generally prompt. If there was no agglutination within a minute, the slide was incubated at 37° C. for 5 minutes.

The diagnostic sera used by the Subcommission were prepared at The Rockefeller Institute in Princeton, N. J., and were essentially specific. High titered group agglutinin particularly characteristic of the *Shigella paradysenteriae* group was removed or reduced to a low content by absorption. These sera were shipped in a dried state. Sera against the other species of *Shigella* were mostly used unabsorbed as their group agglutinin titer was low. These were shipped in a fluid state diluted half with glycerin. Prior to use the sera were diluted 1:25 or 1:50 with saline solution containing 0.25 per cent phenol. The diluted sera were stored in a refrigerator and maintained their titer very well for at least two months.

Cultures which were presumptively positive on SS agar and in triple sugar were tested first with two polyvalent *S. paradysenteriae* antisera containing Flexner and Boyd types, respectively. If positive they were identified as to species with monovalent absorbed sera. If negative they were successively tested with *Shiga, sonnei, ambigua, alkalescens,* and *dispar* sera. In case the suspension from the first triple sugar culture failed to agglutinate with any serum, the second culture was examined. In testing with *S. alkalescens* serum the suspension was first immersed in boiling water for 5 to 10 minutes.

The results of the survey in respect to the frequency rates of *Shigella* are presented in Table 1. Fifteen of the 17 commonly accepted species were isolated at one or both stations, the two exceptions being Boyd D 19 and Boyd 170 of the paradysentery group. The *S. ambigua* rates were approximately the same in both Calcutta and Assam; otherwise there was a marked lack of uniformity in distribution. The most striking difference occurred with *S. sonnei,* 22 strains being isolated in Calcutta but only one in Assam. The high rate in Calcutta was not referable to any one outbreak. The increased incidence of Boyd 103 in Assam was attributable, however, to a minor local epidemic. The large number of V and W strains of *S. paradysenteriae* isolated in Assam were chiefly encountered in healthy carriers from several different organizations. The total combined V, W, and Z rates were in close agreement with those earlier reported by Boyd in his much more extensive Indian survey of 1932–1935.[3] His figure based on 7,339 *Shigella* isolations was 50.2 per cent, whereas that obtained by the Subcommission was

TABLE 1

The Analysis of Shigella Cultures Isolated in India

Species	Calcutta		Assam		Combined	
	No.	Per cent	No.	Per cent	No.	Per cent
Shigella dysenteriae	2	1.5	12	5.1	14	3.8
Shigella paradysenteriae:						
Flexner V	11	8.5	77	33.0	88	24.2
Flexner W	23	17.8	51	21.8	74	20.4
Flexner Z	6	4.6	6	2.5	12	3.3
Newcastle-Boyd 88	28	21.5	6	2.5	34	9.3
Boyd P 119	1	0.7	0	0.0	1	0.2
Boyd 170	0	0.0	0	0.0	0	0.0
Boyd 103	7	5.4	28	12.0	35	9.6
Boyd P 288	1	0.7	1	0.4	2	0.5
Boyd D 1	4	3.1	1	0.4	5	1.3
Boyd P 143	0	0.0	3	1.2	3	0.8
Boyd P 274	1	0.7	4	1.7	5	1.3
Boyd D 19	0	0.0	0	0.0	0	0.0
Shigella ambigua	21	16.2	37	15.8	58	16.0
Shigella sonnei	22	17.0	1	0.4	23	6.3
Shigella dispar	2	1.5	2	0.8	4	1.1
Shigella alkalescens	1	0.7	4	1.7	5	1.3
Total	130		233		363	

47.9 per cent. Aside from these rates and the comparative rarity of the minor Boyd species there was little correlation between the two sets of data.

Since nearly 70 per cent of all *Shigella* isolations were in the paradysentery group, the use of absorbed sera in conjunction with spot agglutination resulted in a significant saving of labor and materials. The use of absorbed sera also resulted in more accurate diagnosis, eliminating the guess which formerly had to be made with cultures agglutinating to nearly the same end point in each of several unabsorbed sera. With this technic final identification could generally be made 48 hours after culturing and, in some instances, if the SS plate growth was sufficiently pure, in 24 hours. It is our opinion that absorbed serum used in conjunction with spot agglutination, a method which has only recently come into general use for the identification of *Shigella*, is far superior to the former method employing unabsorbed serum and a series of dilutions in tubes. It should be noted that agglutinin absorption was employed much earlier by Boyd [3] and by Andrewes and Inman [4] for the separation of *Shigella*. The only anomalous finding encountered during the course of the survey concerned *S. ambigua* and apparently was referable to some antigenic deficiency in the culture originally used for preparing the antiserum.

Approximately 80 per cent of the 450 cultures which gave a presumptively positive biochemical reaction were subsequently identified as *Shigella*. The remaining 20 per cent of the cultures, which failed to agglutinate in any of the *Shigella* antisera, comprised two general groups, one of motile, the other of nonmotile bacteria.

Motility was determined by stab inoculation of semisolid agar containing 0.4 per cent agar and 10 per cent gelatin. In this medium a motile organism produces a diffuse growth while a nonmotile one grows only along the line of inoculation. In some instances, particularly in carrier studies, the inoculation of semisolid agar from the triple sugar culture was included as an additional step prior to agglutination. All motile bacteria were also tested with

an *Eberthelle typhosa* antiserum and all failed to agglutinate. Their behavior on SS agar and in triple sugar agar indicated that lactose was not fermented, but on further testing in Durham tubes containing lactose alone practically all of them produced acid in 24 to 48 hours.

The nonmotile cultures which failed to agglutinate in any of the *Shigella* antisera when first tested were transferred several times and then inoculated into Durham tubes containing dextrose, mannite, lactose, and saccharose, respectively. They were finally reagglutinated with antisera which corresponded with the sugar pattern. Several strains of *sonnei* were thus identified, but most of the cultures again failed to agglutinate. These cultures were sent to The Rockefeller Institute in Princeton where they were retested biochemically with a greater range of carbohydrates; indol production was determined; and their reaction on Simmons's citrate agar observed. There was a wide variation in the sugar pattern and in indol production. Most of them failed to grow on citrate agar. The serological findings determined by tube agglutination were again uniformly negative.

The motile bacteria, which constituted 6 per cent of all presumptively positive cultures, were not encountered more frequently in India than they were during earlier surveys of Army camps in the United States. Since there is no indication at present that any members of the genus *Shigella* are motile, despite one of the earlier descriptions of *S. paradysenteriae Newcastle*,[5] and since *Shigella* antigens were not demonstrable in any of the motile bacteria, they were regularly reported as "*Shigella* negative." There is no evidence as to the etiological relationship of these bacteria to diarrhea other than their recovery from the intestinal tract of patients. They were, however, as frequently isolated from the intestines of normal individuals who gave no history of diarrhea.

The nonmotile bacteria, comprising 14 per cent of all the presumptively positive cultures, were encountered much more frequently in India than during our earlier work in the United States. They were troublesome in the reporting of laboratory findings, particularly when recovered from patients with diarrhea in the absence of known infective agents. It is by the chance recovery of such exceptions that new species are found. Since none of the nonmotile bacteria contained antigens in common with any of the known species of *Shigella*, they were withheld from that genus and reported as "*Shigella* negative." The more detailed examination of these bacteria at The Rockefeller Institute in Princeton yielded no evidence that would alter this opinion. As in the case of the motile bacteria, the nonmotile ones were recovered as often from the intestinal tract of normal individuals as from patients with diarrhea.

SUMMARY

An analysis of 450 presumptively positive intestinal cultures isolated in Calcutta and Assam is presented and discussed.

Eighty per cent of these cultures were identified serologically as *Shigella*, 14 per cent were unidentified but contained no related antigens, and 6 per cent were motile. *S. paradysenteriae* comprised 70 per cent of the specific group which included in all 15 different species.

The efficacy of spot agglutination in conjunction with absorbed antisera for the identification of *Shigella* is emphasized.

NOTE: The writers gratefully acknowledge the technical assistance of Miss Marion Orcutt, of The Rockefeller Institute in Princeton, and the helpful coöperation of the

many officers and enlisted men from the Medical Department of the Army who participated in the survey.

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United States Committee for Study of Joint Causes of Death

The State Department of the United States Government has created a subcommittee for the study of joint causes of death. This is a subcommittee of the Joint Committee appointed by the International Statistical Institute and the Health Organization of the League of Nations as recommended by the 1938 Conference for the Revision of the *International List of Causes of Death*.

Lowell J. Reed, Ph.D., Professor of Biostatistics and Dean of the School of Hygiene and Public Health of The Johns Hopkins University, has been designated as chairman of the subcommittee with Halbert L. Dunn, M.D., Bureau of the Census, and Selwyn D. Collins, Ph.D., United States Public Health Service, as co-secretaries.

Members appointed to the committee are:

George Baehr, M.D., Mount Sinai Hospital, New York, N. Y.

Y. Biraud, M.D., League of Nations, Geneva, Switzerland (acceptance to the committee not yet received)

F. S. Burke, M.D., Chief of the Foreign Relations Section, Department of Veterans' Affairs, Ottawa, Ontario, Can.

Edwin L. Crosby, M.D., Assistant Director, The Johns Hopkins Hospital, Baltimore, Md.

W. Thurber Fales, D.Sc., Director Statistical Section, City Health Department, Baltimore, Md.

J. T. Marshall, Chief, Vital Statistics Branch, Dominion Bureau of Statistics, Ottawa, Ontario, Can.

Brigadier J. C. Meakins, Department of National Defense (Army), Ottawa, Ontario, Can.

Edward S. Rogers, M.D., Assistant Commissioner for Medical Administration, State Department of Health, Albany, N. Y.

J. Wyllie, M.D., Professor of Preventive Medicine, Queen's University, Kingston, Ontario, Can.

Consultant to Committee: Percy Stocks, M.D., Registrar General Office, Statistical Branch, Lancashire, England

The last conference for the Revision of the *International List of Causes of Death*, held at Paris in 1938, requested the United States Government to appoint this subcommittee with the objective of obtaining unity in the methods involved with the selection of the main cause of death when two or more causes are mentioned on the death certificate. The subcommittee will also study the various national lists of diseases now in use in this country. This type of study by each nation was recommended by the Conference in order to bring the national disease codes into line with the detailed *International List of Causes of Death*.

Background of Current Trends in the Relation of Public Health to Medical Care

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ON October 4, 1944, the Governing Council of the American Public Health Association adopted a comprehensive report urging the development of a national program of medical care in which public health agencies would assume major administrative responsibilities.

This action, which marks a striking departure from the traditional isolation of the public health profession from therapeutic medicine, represents no accidental decision but a logical development in the evolution of preventive medicine. The report adopted by the American Public Health Association is consistent with the thinking of a previous generation of public health workers whose approach to the problem of medical care is well worth studying today.

It is a significant and often overlooked fact that federal public health services in this country had their origin in a government system of health insurance and medical care. The U. S. Public Health Service grew out of the Marine Hospital Service established by Congress in 1798 to care for sick and injured merchant seamen. It was only in the last quarter of the 19th century that the Marine Hospital Service began to assume duties in relation to quarantine and other traditional health services. For this reason the U. S. Public Health Service has never been a purely preventive agency, but has afforded its medical officers training in curative medicine and hospital administration.

The situation in regard to the state and local health departments has been quite different. Their activities have until recent years been strictly limited to preventive functions.

The practising physician, on the other hand, is still insufficiently involved in the prevention of disease. The isolation of preventive from therapeutic medicine has operated to the detriment of both.

But the development of preventive medical science has of its own momentum tended increasingly to eliminate the barriers between prevention and cure. The very triumphs of the purely preventive techniques, such as sanitary measures and preventive inoculations, have made them relatively less important, though still necessary; for with the conquest of many of the acute communicable diseases there has necessarily occurred a shift of emphasis to the chronic illnesses which are the major causes of disability and death. In tuberculosis, health officers realized that good hospital care was essential to prevention of the spread of the disease, and so they crossed the line into medical care by establishing and operating tuberculosis hospitals. In syphilis, public

health officials again found it necessary to treat in order to prevent. In cancer, health departments have begun to provide diagnostic and treatment facilities in order to combat the disease early in its course and thereby prevent serious consequences.

As a result, the artificial wall which had been built up between preventive medicine and medical care has been partially leveled. The report on medical care adopted by the American Public Health Association is a sign that perhaps an early completion of the leveling process may be anticipated.

This emphasis on breaking down the barriers between preventive and curative medicine does not mean that there is no distinction between them. The objection of forward-looking health officers is not to the distinction between the two but to their separation.

For example, the American Public Health Association report on medical care urges that public health agencies be given major responsibilities for administration "because of administrative experience and accustomed responsibility for a public trust." These are good reasons, but overlook a very cogent one based on the distinction between preventive and curative medicine. The private practitioner is by training and experience oriented to the diagnosis and treatment of illness. The administrator of hospital insurance plans has an actuarial and financial approach to medical care. The public health official on the other hand is by training and experience oriented to the prevention of disease, and can therefore make a specific and important contribution to the administration of a medical care program. There is no group more capable of infusing the philosophy and techniques of preventive medicine into every aspect of a medical care system than the public health profession.

The responsibility of administering a medical care program would open up to the public health official the entire field of medicine for the application of the preventive approach. For instance, he would be in a position to obtain the adoption on a wide scale of routine chest x-rays of patients in general hospitals. He could urge the use of clinic waiting rooms in general hospitals for purposes of health education, adopting techniques which have already been brilliantly developed by Henriette Strauss at the Johns Hopkins Hospital.[1] He would encourage the utilization of preventive methods in diseases which heretofore have been considered entirely outside the realm of prevention. Alvarez's recent suggestion of a simple and practical method of preventing peptic ulcer recurrences is a case in point.[2] Another is the adoption of foot care clinics for diabetics, such as some of our leading hospitals are now using to prevent diabetic gangrene. In every branch of medicine, the health officer, as administrator of medical care services, would be in a strategic position to emphasize prevention and thereby help develop a new type of medical practitioner, oriented more fully to the prevention of disease.

This approach to the problem of the relationship of public health and medical care has significant historical precedent. Before 1871 the Marine Hospital Service operated as a medical care system pure and simple, administered by the customs collectors in the various ports and the clerks of the Revenue Marine Division of the Treasury Department. Reorganization by Congress brought the Service under the central supervision of Dr. John M. Woodworth, its first Supervising Surgeon, who was thoroughly imbued with the new preventive spirit which was to find material expression in the organization of the American Public Health Association in 1872. Dr. Woodworth not only improved the efficiency of the

Service but instituted the first effective application of the preventive philosophy to a medical care system.

In 1874, at a time when government health insurance was, in Dr. Woodworth's phrase, "still a peculiarly American institution," he stated in his Annual Report:

> While the primary object of the Service as defined by statute is the "relief of sick and disabled seamen," the duty of preventing, in whatever degree, such sickness and disability, is also conceived to be within its scope. Hence, preventive medicine, which is receiving from the profession a continually increasing amount of attention, has not been lost sight of in its bearing upon the physical welfare of seamen; and the medical officers of the Service have been invited to study and report upon the conditions of sealife with a view to devising measures for the preservation of the sailor's health and his protection from disease.[3]

The Annual Report for 1874 contained articles on The Hygiene of the Forecastle; Unseaworthy Sailors; Diseases of River-men, Their Causes and Prevention; Preventable Disease on the Great Lakes; Syphilis, the Scourge of the Sailor and the Public Health; Yellow Fever at Pensacola in 1874, etc.

The Marine Hospital Service took the initiative in providing free physical examinations of merchant seamen, and recommended legislation which would require examination before shipping. It focused attention on the high death rate from respiratory disease and called for elimination of unhygienic conditions on ships:

> Over fifteen per cent of the total deaths in marine-hospitals was due to pulmonary phthisis; and when to this is added the mortality from bronchitis, pneumonia, and other diseases of the respiratory organs—over ten and one-half per cent—the importance of such special study of the conditions of sea-life in their bearing upon these diseases, as is suggested by Surgeon Heber Smith's Hygiene of the Forecastle, and other of the subjoined papers, is apparent. Rosewood fittings, Axminster carpets, and silver plate in the captain's cabin; and darkness, foul air, and moisture in the forecastle, are incongruities which jar on the senses of even the laic observer; but these conditions in the forecastle are crimes against hygiene which pay heavy penalties in increased sickness and consequent expense, and in short-handed and short-lived crews.[3]

Acting on the principle that "the application of preventive measures should not be confined to the seamen on shore, but should extend to the sailor afloat," the Marine Hospital Service urged more adequate legislative requirements for antiscorbutic provisions. It recommended the passage of laws requiring vessels to maintain certain standard medicines and surgical dressings in their medicine chests, and prepared and distributed a *Handbook of Ship-Medicine and Surgery* for the use of merchant vessels.[4]

This early demonstration of an effective integration of preventive and therapeutic medicine was soon forgotten. In the ensuing years public health agencies devoted themselves with unbounded energy and enthusiasm to the application of the epoch-making discoveries of Pasteur and Koch. For several decades signal successes were scored in the war on communicable disease without entrance into the field of medical care. Only in the recent period have the intrinsic factors in the development of preventive medicine driven public health in this direction.

Likewise, the powerful external forces which were developing throughout the bacteriological period in public health, and which were destined eventually to exert a decisive influence on the relation of public health to medical care, did not reach maturity until recent years. These social factors were the emergence of industrial society with concomitant insecurity of large sections of the population, and a remarkable technical development of medical science. The inevitable result has been a public clamor for social insurance to finance medical care as well as an increased

emphasis on hospital and group practice.

In 1916, the first proposals for government health insurance were introduced into several state legislatures. The bills were sponsored by the American Association for Labor Legislation, which had just completed a successful nation-wide campaign for workmen's compensation laws. The attitude of the public health profession to the proposed legislation was expressed in a report adopted May 13, 1916, by the Fourteenth Annual Conference of State and Territorial Health Officers. That report bears much the same relation to the health insurance bills of 1916 that the report on medical care adopted by the American Public Health Association in October, 1944, bears to current proposals. Both reports took a positive approach to medical care, while indicating deficiencies in the proposed legislation and suggesting improvements. Both reports emphasized the need for administration by public health agencies, but while the 1944 report was content to cite "administrative experience and accustomed responsibility for a public trust" in support of its position, the 1916 report went a step further. It criticised the proposed legislation because "the matter of providing medical benefits has been left in the hands of the local bodies, and no provision has been made for correlating the system with existing health agencies. These are serious objections, since without such provisions a health insurance law will have little value as a preventive measure, although it may meet with the approval of those who advocate it as a relief measure."[5]

The 1916 Conference of State and Territorial Health Officers understood fully the need for administration of the medical care program by public health agencies in view of the importance of the preventive approach to medical care. Their report continues:

> Health officials should realize now, the necessity for correlating the administration of the medical benefits of any proposed health insurance system with existing health agencies. If health departments are at present inefficient, they should be strengthened and made adequate to meet all demands.
>
> To enact a health insurance measure simply as a relief measure without adequate preventive features would be a serious mistake, but with a comprehensive plan for disease prevention there is every reason to believe that it would prove to be a measure of extraordinary value in improving the health and efficiency of the wage-earning population.[5]

Of course, the 1916 report lags in many respects behind the report adopted by the American Public Health Association. We have today the advantage of the experience of twenty-eight years in which great changes have taken place. Yet one is struck by numerous similarities. The 1916 report called for financing the medical care program through combined social insurance and taxation, and the 1944 report favors social insurance supplemented by general taxation or general taxation alone. Both reports recommend that the principle of free choice of physicians be preserved. It is of interest that the 1916 report also suggests that

> In addition, free choice should be allowed to those who prefer institutional treatment by a selected staff when available, and to this end the local and federated governing bodies might even provide dispensary and hospital units, each such unit to include a staff of physicians, surgeons, oculists, dentists, and other specialists, and a staff of visiting and bedside nurses.[5]

In the 1944 report, a great deal of emphasis is placed on the provision of needed hospital and health center facilities, as well as "the desirability of combining hospital facilities with the housing of physicians' offices, clinics, and health departments."[6]

The 1916 report recommends that physicians be paid on a capitation basis so as to "offer every incentive to them to keep their patients well," while the

1944 report recommends that the private practitioners in each area be allowed to choose payment by fee-for-service, capitation or salary, but calls attention to the fact that fee-for-service alone is not well adapted to a system of wide coverage.

The 1916 report of the Conference of State and Territorial Health Officers was based largely on an investigation made by Surgeon B. S. Warren and Statistician Edgar Sydenstricker published as *Public Health Bulletin No. 76*, "Health Insurance: Its Relation to the Public Health." This *Bulletin* is a significant document in the development of medical care in the United States, both because of its excellent factual material and its insistence that the administration of a medical care program "must be closely coördinated with public health agencies if it is to attain the greatest degree of success as a preventive measure." [7]

Warren and Sydenstricker also pointed out the intrinsic preventive character of a medical care system which would remove the economic barrier to early diagnosis and treatment, since "the wage earner would seek the advice of his family physician earlier and oftener in case of all ailments and thus aid the physician in preventing serious diseases."

In 1919, B. S. Warren, then Assistant Surgeon General, reëmphasized the preventive nature of medical care in a statement which is still pertinent today:

"In these days of progress in preventive medicine there is some tendency to separate too sharply the preventive from curative medicine. It should not be forgotten that an adequate medical service to the whole people will do more to prevent disease and disability than any other single measure to be considered." [8]

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A Method for Control of Sanitation in Food Processing Plants*

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RECENT increased demands for production of all types of foods have again emphasized the difficult problem of adequate control of food plant sanitation. Several recognized methods which are available for such control include a number of agar contact methods [1-4] and the recently proposed standard method for control of food utensil sanitation.[5]

In connection with studies on the microbiology of dehydrated vegetables, it became necessary to select a method for control of plant sanitation in order to control microbial souring of vegetables during the process of dehydration, and to reduce the microbial populations of these dehydrated foods. Preliminary tests were made with the agar disk method,[1, 2] the agar contact plate,[4] and a swab, smear plate method originating with the authors. These methods were found entirely inadequate because the large populations generally found on various pieces of processing equipment afforded such abundant colony development on the surface of the agar that no reasonable estimate of the numbers contaminating a given surface could be made.

To overcome the inadequacy of these different methods for the problem at hand, tests were made using the swab technique method recently recommended for control of food utensil sanitation.[5] Again, the high population levels created difficulty in obtaining adequate estimates of the numbers of microörganisms contaminating the surfaces of equipment such as conveyor belts, cutting knives, dehydrator trays, etc.

To obviate this difficulty and at the same time accurately control the surface area sampled, instead of estimating it as proposed in the standard method,[5] a guide was constructed having a central rectangular opening which would expose exactly 4 sq. in. of surface for sampling (see Figure 1).†

The guides first used were of medium gauge stainless steel having a central opening 1 x 4 in. These guides were found to be satisfactory as they afforded accurate surface sampling. The proposed standard method,[5] somewhat modified, was then found to be satisfactory for control of equipment sanitation.

THE METHOD

Equipment and Materials — The equipment and materials necessary for the method include sterile swabs, sterile guides, sterile 99 and 9 ml. dilution blanks, sterile Petri dishes, sterile 1 ml. pipettes, sterile forceps or scissors, and suitable agar media for plate counts.

The swabs, made with firmly twisted

* A report on a joint research project of the Quartermaster General's Office, U. S. Army and University of California.

† Adapted from Gilcreas, F. W. Methods for Examinations Concerned with Eating, Drinking and Cooking Utensils. Methods for Approved Laboratories, New York State Dept of Health, 1940 pp. 8-9.

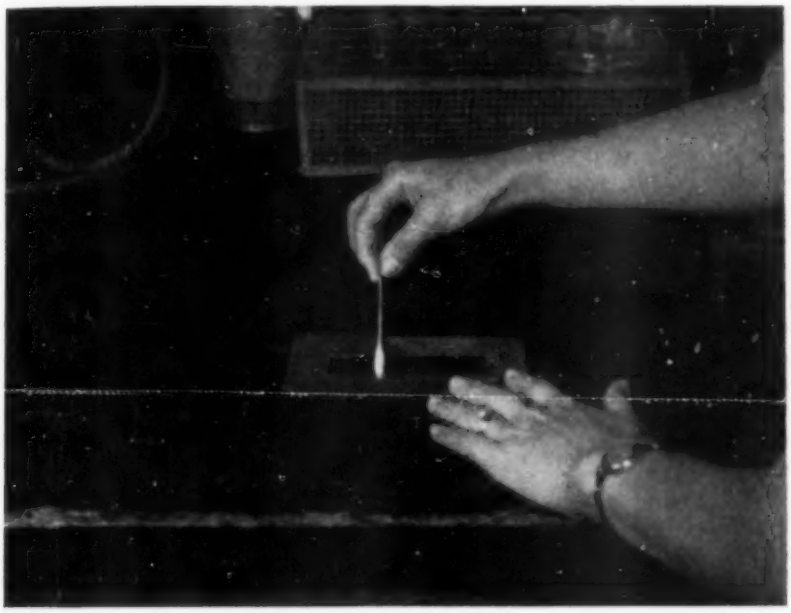

FIGURE 1

absorbent cotton, were approximately ¼ in. in diameter and 1 in. long affixed to wooden applicator sticks approximately 1/16 in. in diameter and 6½ in. long. Sterile, dry swabs were stored in groups of 5 in sterile, cotton plugged 1 x 8 in. test tubes.

It is imperative that the swabs be ¼ in. in diameter in order to sample rough wooden surfaces; smaller swabs are not satisfactory as they tear apart too easily.

The stainless steel guides previously described were wrapped individually in several layers of heavy wrapping paper and sterilized. (If a portable butane or other "bottle gas" burner or blow torch is available the guides may be sterilized by flaming.)

Dilution blanks were prepared in 99 ml. quantities in 6 oz. screw-cap prescription bottles. The blanks contained Butterfield's phosphate solution [6] with addition of sodium thiosulfate to counteract any chlorine picked up with the swab sample. Additional 9 ml. blanks containing the phosphate solution, distilled or tap water, were prepared for dilution of the original sample. These blanks were prepared in ¾ x 6 in. tubes with cotton plugs.

The glassware was sterilized in the usual manner in an electric oven at 150° C. The swabs, guides, dilution blanks, and other equipment and media were sterilized in the autoclave at 120° C. for 20 minutes.

Collection of Samples — Conveyor belts, trim table belts, guides, shields and other surfaces suspected of contributing to contamination of the vegetables in process of preparation for dehydration were examined. The suspected surface was sampled at random using the stainless steel guide to permit the sampling of 4 sq. in. of surface area with a sterile swab thoroughly moistened in the sterile phosphate solution. The sterile, moist swab was scrubbed over

the selected area for 30 seconds (or until the surface was noticeably dried) and then broken or cut off aseptically from the contaminated end of the swab stick into the 99 ml. dilution blanks. The resulting sample was then prepared for immediate dilution by vigorous shaking by hand (approximately 100 times) until the cotton swab was completely disentangled from the end of the applicator stick. The shaken sample, considered as a 10^{-2} dilution was then plated out in appropriate dilutions using suitable agar media. After incubation the plates were counted and the numbers expressed as microörganisms per 4 sq. in. of surface.

Agar Media Used—Unlike ordinary sanitary control work where it is possible to select a given test organism, in studies on control of sanitation in food production plants such a selection is impossible. Yeasts, molds, and various bacteria contribute to excessive contamination in a food plant. For example, in potato as well as other vegetable dehydration plants one may find significant numbers of coliform bacteria, aerobic bacilli, and yeasts making up the total population of the surface examined. Since representatives of each of these groups may contribute significantly to deterioration of the potatoes or other vegetables before they are completely dehydrated, it is obvious that a single agar medium is not enough. In all work on the sanitary aspects of vegetable dehydration three or four agar media have been used: Levine's eosine-methylene-blue agar for the coliform and other Gram-negative bacteria; yeast infusion glucose agar * for lactic acid bacteria and yeasts, Difco tryptone glucose agar for enumeration of acid or alkali-forming organisms and standard nutrient agar because it is such a widely mis-used medium for industrial control work. No special medium was used for the molds since, if significant spores or fragments of mycelium were present, the yeast infusion glucose agar supported their growth satisfactorily.

In most cases results were recorded as numbers of microörganisms per 4 sq. in. of surface examined without attempting to enumerate the kinds of microörganisms other than to recognize whether the colonies were molds, yeasts, or bacteria. With eosine-methylene-blue agar, however, it was possible to recognize representatives of the genera *Escherichia* and *Aerobacter*.

Application—Since July, 1944, when the method was first developed for use in connection with control of contamination of processing equipment in a vegetable dehydration plant, the method has been tested repeatedly in twenty dehydration plants and in several frozen foods plants preparing quick-frozen vegetables. The method, if used as directed, has proved satisfactory for control of sanitation in these food production plants. The method is particularly adapted to use in the field under adverse conditions and, in fact, has been used almost entirely under field conditions in California, the other Pacific Coast states, and Idaho.

Limitations—It is to be stressed that this method has certain limitations. The most serious objection arises when attempting to sample rough wooden surfaces such as those found on dehydrator trays, fruit and vegetable lug boxes, etc., made with rough finished lumber. The rough surfaces invariably tear the swabs. Furthermore, it is doubtful if these surfaces are ever adequately sampled because much of the contaminated debris is imbedded below the contact surface reached by the

* This medium is prepared by autoclaving 200 gm. of fresh baker's yeast cake in a liter of water for 30 minutes at 120° C. The infusion is allowed to stand for the purpose of settling out most of the solids, the supernatent is decanted off and clarified by filtration or used directly. One to 2 per cent glucose and 2 per cent agar are added to the infusion, and the medium is sterilized at 120° C. for 20 minutes.

swabs. Fortunately, little equipment of this nature has been encountered in most plants.

As previously stressed,[6] it is questionable whether all or a fixed percentage of organisms can be removed from a given surface. This is certainly true in the case just discussed and, in all probability, in the case of all surfaces, rough or smooth.

Too, the dilution solution is not favorable for maintaining prolonged viability, so plating must be done within a few hours or preferably immediately after sampling. Rather than contend with the possible diminution in numbers of viable organisms in the original sample on storage for even a few hours, it is recommended that the sample be plated immediately.

In addition the usual vagaries of the dilution and plate count technics have to be tolerated.

Nonetheless, the method as outlined above may be used successfully to control sanitation in food processing plants.

Other Suggested Uses — Since first using the stainless steel guides for sampling flat surfaces, occasion has arisen to sample contoured areas. Simple circular or angular areas may be sampled successfully with the stainless steel guides properly bent to fit the desired arc or angle. These, however, are not readily applicable for complexly contoured areas. For this purpose it is suggested that guides be prepared from malleable sheets of aluminum, tin, or lead, or foil sheets of these metals, or even from cellophane or paper. The malleable sheets, foil, cellophane or paper guides can be fitted by hand to cover readily all manner of contoured areas and should find ready application in the method proposed for control of food utensil sanitation.

The use of guides affords reasonable accuracy in sampling a given area, thereby eliminating any possible error arising from inaccurate estimation of a given area.

The malleable metal and paper guides may be wrapped and sterilized in groups, but the cellophane guides must be separated by paper lest they fuse together on heating.

The opening in the guide may be square, circular, or rectangular. The rectangular guide was chosen because it afforded easier use of the swab and at the same time covered a longer portion across the length and breadth of the equipment being sampled. An area of 4 sq. in. was chosen because it had been previously recommended for sampling food utensils.[5] A smaller area is difficult to swab accurately. A larger area in the experience of the writers would be wasteful of materials and equipment because of the very large numbers of organisms which would be encountered under certain conditions.

Although results are expressed as numbers of viable organisms per 4 sq. in. of surface, there is no reason why they might not be expressed in terms of other units (per sq. cm., per sq. in., per sq. ft.).

Interpretation of Results—There are several factors which complicate proper interpretation of this method as applied to control of sanitation in food production plants. The numbers of microorganisms contaminating equipment are far in excess of those customarily encountered on food utensils and containers, etc.[1-4, 7-9] The nature of the equipment and its design influence the ease with which it may be cleaned. The food plant may operate 24 hours a day.

The conveyor belts and other equipment in contact with the food product being prepared certainly, if properly cleaned, should not contribute to the build up of a microbial population in the product above the normal population for the product at any stage in the process of preparation. Thus, preblancher equipment should naturally be

expected to carry a higher microbial population than post-blancher equipment. In the absence of the blanching process all equipment should carry a uniform light load of contaminating organisms if control of sanitation is to be considered adequate.

Whether the customary "clean-up" procedure including scrubbing, the use of a high pressure steam cleaning hose, application of a sterilizing spray, and a final hosing down with potable water is an effective practice for cleaning is problematical.

Results obtained to date indicate that there is a serious need for some method affording continuous cleansing of conveyor belts, many of which at present frequently are in operation for 10 to 18 hours without having been cleaned.

SUMMARY

1. A method for determining the bacterial contamination of food production equipment surfaces has been described.

2. The method, a modification of the recently proposed method for control of food utensil sanitation, allows for accurate sampling of any accessible surface area by the use of a guide which permits the swabbing of a given rather than an estimated surface area.

3. The method, with malleable sheet, foil, cellophane or paper guides, may be applied to irregularly contoured surfaces. Stainless steel guides are recommended for flat and regularly contoured surfaces.

4. The method is more satisfactory for use in studying and controlling bacterial contamination in food production plants than any other proposed method which has been investigated.

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Problems of Health Education in Latin-America

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FOREMOST among the great medico-social problems of all ages and of all countries there stands out the problem of public health, and the necessity for educating the people as a whole in its basic principles.

Health education brings into action all the knowledge of medicine, of hygiene and of pedagogy. In the modern concept of social justice, health education is a factor that, by itself, offers the greatest of benefits—health, taught with an altruism that gives without either asking or expecting any monetary compensation. It is the beacon of the science that aims at the enlightenment of all the beings upon earth, equally, and awakening in all consciences a desire for the well-being and happiness of all mankind.

With such a concept, health education in our Latin-American countries must include the following features:

1. It must convey to the minds of all cultural levels the basic principle of the importance of health as an element of life and personal prosperity.
2. It must eliminate the incomprehension, the ignorance, the prejudice and the superstition so common in our countries.
3. It must teach the concept of hygienic life, of good alimentation, of clean lodging, and the prevention of illness.
4. It must carry to the conscience the recognized principle that the individual, the citizen, is only a part of the social and national whole; and for that reason the health and well-being of all the people are only human functions that contribute the economic improvement and individual prosperity as a collective part.

After these general considerations, let us see how the educational work must be carried out in our countries. (1) Make an investigation of the general health problems and of the illnesses that are most frequently endemic and epidemic; and also investigate the standards of cultural and economic life of the inhabitants. (2) Adopt methods that are suitable to the problems of the particular countries or regions, giving due consideration to their sanitary necessities, their economic capacities and the prevailing manners of living of their peoples.

To conduct the campaign adequately we must have a complete knowledge of the land in which we are going to work; we must know its geography, its history, its traditions, and its routes and means of communication. We shall have to know the predominant character of the population, the general culture and psychology of the people, the influence of religion, and the respect for authority. And, furthermore we must make a study of the region's statistics, its economic status, and any progress the inhabitants may have made toward their own social and economic improvement. In addition to all this we shall have to have a sufficient force of trained personnel, together with adequate medicines and equipment, and the funds necessary for an efficient and long campaign. We must have unlimited patience, because a work of this magnitude cannot be

completed in a short time—in fact it will have to be carried on indefinitely.

We know that if we want to get to the masses, and especially to those of very little culture, we need men with knowledge, and with altruism in their hearts—men who are scientific and human at the same time.

Our Latin-American countries, so varied in their aspects, with climates, altitudes, configurations of territory and natural wealth so different, have many characteristics in common: Our language and our origin are the same; our religion, our customs, and our general culture are the same; we all have Indians, mestizos, and whites; our virtues and our shortcomings are similar; our hardships and our calamities are common to all of us.

In the teaching of health education we must take into consideration the differences between the man of the city and the man of the country: The former is more comprehending than the latter; he has the opportunity to learn without great effort, while the contrary is the case with the rural individual, who lives more or less in isolation. But, even in the city we must distinguish between the high, the middle, and the low class man, as each of these has a different cultural level. And further, if we go to the rural part of the country, in some zones we find mestizos and civilized Indians, but in others we still find Indians who speak only their own dialect and who cling to the customs of their ancestors, thereby making it a difficult problem to give them any kind of an education.

It can easily be seen what a difficult task the teaching of health education is under such conditions. In order to be successful one must exercise unlimited patience, coupled with technical knowledge and the right psychology—for any attempt at coercion would awaken the latent antagonism of the community and result in failure. It is not easy to change the firmly fixed unhealthful and insanitary habits of the primitive natives, who are not readily receptive to reason and to things they do not understand. To be successful one must obtain the coöperation of the people, which can be had only by arousing their interest, and by simple, convincing proofs—never by academic arguments that are beyond their comprehension.

After considering all these complicated problems involved in the establishment of public health education in Latin-America, we are forcibly confronted with the enormity of the task with which we, the future health educators, are faced.

I shall now mention one of the problems that to me seems to be of paramount importance: that is, the infant mortality rate, which is not only medico-social, but also economic-social and cultural. Its solution can bring the most success to the health education movement, because that rate is capable of substantial reduction, provided adequate public coöperation can be obtained.

We know that our abnormally high infant mortality rate—which is one of the highest in the world—is the result of numerous causes: bad inheritance, ignorance, poverty, illegitimacy, malnutrition, and communicable diseases, all coupled with a deplorable lack of medical assistance and health education. Facing so complex a problem, and bearing in mind the fact that the higher infant death rate in the Latin-American countries occurs among the poor, illiterate, and ignorant people of both the city and the country, we ask: "What can and must be done to improve this condition?" We know that, according to the principles of eugenics, every child comes to birth with a biologic heritage transmitted to him from his forebears. But we know also that the new child, whatever its origin, has the right of investigation of

its heredity, and also the right of protection in and out of the maternal womb.

The preservation of the life of the mother, as well as that of the child, from the medical and economic point of view is the duty of the State, not as a charitable and sentimental act, but as an inevitable obligation that calls for a protective and educational organization in the interest of the general public welfare and advancement. For a long time all this has been under consideration in many of our countries, but always we have been confronted with the same grave difficulties. What are these difficulties? They are not a lack of suitable laws; they are a lack of understanding on the part of so many people, caused by an excess of ignorance, poverty, prejudice, superstition, and indifference.

There is a want of good lodgings and nourishing food; there is little opportunity for sufficient rest and recreation; there is an excess of illegitimacy, immorality, and preventable illnesses; and there is a woeful lack of physicians, nurses, and instructors. And further complicating the situation, is the large number of unprincipled persons, politicians and blackmailers, preying on the unsuspecting people.

What can we do to overcome these deplorable conditions? Infant mortality is a medico-social problem, and health education cannot accomplish a complete and lasting reform without the coöperation and help of other elements of society. Such help is necessary in order to improve the condition of the more or less ignorant Indians, rural workers, and peoples of the middle and lower classes. Illiteracy must be eliminated as far as possible, by the creation of schools to serve the entire population; protective laws must be enacted; inadequate wages and salaries must be increased; and an effective organization must be established for the proper care of pregnant mothers and their infants, together with education of the mother, to be carried on also for a sufficient time after birth.

From the hygienic point of view health education is an irrepressible necessity for the lessening of infant mortality.

The heredity factor, which has a great influence in the development of a new life, is embraced in the science of eugenics—the science that takes first place in the process of life. Therefore the premarital health certificate is of the greatest importance for the protection of the child that is to be born. Practical polygamy, illegitimacy, and promiscuity must be eliminated, or at least reduced to the lowest degree possible. Here again health education comes to the rescue, for the eugenic conscience is the best certificate.

As soon as the new life is conceived, whatever its paternity may be, we must bring into effect the prenatal hygienic care that protects the mother as well as the child. In reality, maternity should not constitute a serious problem, and should not have complications, since it is a purely natural biological occurrence and is the result of an eternal law that tends to conserve the species. Even so, it is the most hazardous epoch in the life of a woman. In this connection the visiting nurses, the physician, and the midwife are auxiliaries, advisers and conductors—health education teaches all the necessities.

Birth hygiene completes the materno-infantile cycle at the oncoming of the new life brought to the world with aseptic materials and scientific aid. Maternity wards, hospitals, physicians, and midwives are indispensable requirements to insure safe birth. Also, there must be protection for the child's eyes, and scrupulous cleanliness of person and surroundings. All these things will be taught in advance by health education.

Then comes child hygiene. The new-born child is fragile and helpless, and it requires constant and scientific protection. And again the mother must have scientific advice and be guided thereby.

In our countries, which have so great an infant mortality, we must concentrate our principal attention on the child. The first year of life is the one in which there is the greatest danger—not because of any lack of love or lack of nutrition from the mother, but because of the ignorance about regulation feeding that exists in the middle and lower classes, and because of the poverty that does not permit of proper attention. We must advocate, not only breast feeding whenever possible, but also scientific technique in furthering the health and development of the child. For the poorer classes milk stations must be established, not only as a matter of health protection, but also for educational purposes.

After the first year of life, and before arriving at the school age, the mother, the child clinic, and the nursery prepare the child for the future. Preventive medical methods conserve its health. Immunization against certain diseases, happiness in the home, and the regimen of normal life are protective in the life of the child. Here is where health education provides the foundation for a strong and active life to come.

At length comes the school life, when the child opens his eyes to the light, when his future is beginning to be shaped. This is the age when hygienic teachings take a large part in the protection of his life; and also the courses of study at school and the accompanying social life are providing instruction and experience whereby he learns to defend himself, not only in a physical sense but also in the matter of health, by forming habits of hygiene. All this can be achieved through an efficient system of health education.

We must educate the child by requiring him to study and practise general hygiene and school hygiene; by teaching him the fundamentals of eugenics, puericulture, and sexual hygiene; and by means of classes in physical education and mental hygiene.

For the development of a program of this kind we must enlist the services of teachers already experienced in health education, of specialized nurses and of competent hygienists who know how to conduct a campaign of this character. It is indispensable in this stage of the child's life that the best and most modern methods of health education be used. It is in the school that we find the best opportunity for developing modern health education from the technical point of view; but it is in the home where the practice must be developed; and it is from the coöperation of both whereby the greatest benefit will be obtained.

From this brief description of the life of the child, we can see that health education constitutes the only means by which infant mortality can be reduced, now and in the future.

We know also that if the child is very poor we must give him more; if he is helpless he requires greater protection, which is his right as a human being—and society and the State are morally obligated to provide that protection.

In modern and civilized nations there is no justification for marriage where there are physical or pathologic impediments. On the other hand, in the opinion of the author, there is no justification for controlling or preventing conception if there are no paramount physical, medical, or pathologic reasons to the contrary; and there is still less justification in stopping the development of the fetus by means of premature expulsion.

No child should die at birth from

tetanus or from any other preventable cause, since he has the right to be born under aseptic conditions and with expert aid. Furthermore, the child has the right to proper care after birth, as needed to eliminate the danger of contagious disease, such as syphilis. He has the right to have a father and a mother, though they are not married, because he has had no choice in his progenitors; he has not asked to be brought into the world—and he is entitled to the best that we can possibly give him.

Also, he has the right to be developed in a healthy mother, and in a sanitary and suitable home.

He has the right of having his mother properly cared for, in comfort, and in sanitary surroundings, both before and after his birth.

He has the right to the maternal breast, carrying with it normal and proper nourishment for his start in life.

He has the right to sanitary and educational care during his preschool life.

He has the right of being protected against contagious diseases, and of being physically prepared to enter school.

He has the right to preliminary kindergarten instruction and primary education, all as an obligation of the State.

He has the right to a specialized and vocational education, according to his talents.

He has the right to adequate nourishment according to his physical requirements.

He has the right to think and discriminate for himself, leading to the development of his own personality, so that he may make a success of his life.

He has the right to reasonable means for his subsistence and his education, so that he may find and take his place in society.

He has the right to have a home, a family, and a piece of land that he can work and improve as a free man.

He has a right to all necessities of life, and to happiness and freedom from worry.

And above all and after all, he has a right to a free life, to be a free man, as a member of a society, as a citizen of a country, small or large—for life, in the larger sense, is synonymous with health, energy, honesty, work, joy, culture, and happiness, all combined.

The child has all these rights—but he also has a duty to himself, to his country, and to humanity. His duty is to be a man, good and virtuous. The three attributes—good heritage, good habits, and good education—embrace the Aristotelian philosophy of life. These are all-inclusive, and they constitute our goal for all the people, as set forth in this discussion.

The establishment of health education in a country is a constructive undertaking; it will teach the public the modern methods of combating disease; it substitutes intelligence and reason in the place of ignorance; and it is the contribution of the State in the campaign to eliminate, or at least greatly lessen, prevalent and prospective public ills and calamities. It is light dissipating darkness. It is the future taking the place of the past. It is culture. It is civilization.

Treatment of Pediculosis Capitis

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DURING the war years, a greater emphasis has been placed on the control of *pediculosis capitis*. This increase in the interest in this infestation has been precepitated largely by the fact that as much as a tenfold increase in the condition has been noted and, too, because of the relationship of typhus fever to pediculosis. The increase in the crowding index of populations in the urban districts of war areas and the influx of peoples of all classes from many sections of the United States, as well as certain foreign countries, have contributed to this problem.

The principal methods of control are prophylaxis and the treatment of those patients infested with the vermin. Personal cleanliness is the first prerequisite in the control of human lice infestation. It can hardly be questioned that at least weekly baths with warm water and soap, with frequent changes of clean clothing, would reduce the frequency of secondary infestation. On the other hand, crowding and intermingling of population groups in dwellings, in industry, places of amusement, and aboard common carriers increase the risk of infestation. It is not unusual in a large, crowded community to see louse infestation among clean families.

The control of pediculosis by treatment of the active cases has been very discouraging in the past, largely because the lousicides available were only of limited value and required a great deal of time and effort by the patients. The materials used and recommended were usually good or fairly good lousicides but would not destroy or loosen the nits. The destruction or removal of the nits was contingent upon secondary treatment with manual or mechanical removal. The tedious nature of such treatment can actually discourage even the most coöperative patient, and yet adequate treatment is not possible without the removal of the nits, because these nits, unless destroyed or removed from the hair, will hatch in about 7 days, and the cycle of reinfestation is reëstablished. The potentialities of such reinfestation can only be evaluated when one recognizes that each female louse is capable of laying 50 to 150 eggs, and that the average louse will live for a period of 30 to 40 days.

TREATMENT

Treatment of pediculosis has resolved itself to experimentation with many of the known proprietary compounds and some relatively unknown products. The use of DDT [1] powder for *pediculosis corporis* is unquestionably a treatment exceeding in effectiveness all other treatments tried. It is probable that some form of this product may be developed that will be equally effective against *pediculosis capitis*. In the meantime, other products have been tried with unusually good results. A 20 per cent solution of Phenyl Cellosolve [2] in 60 per cent ethyl alcohol has been used by the writer with good results.[3, 4] Over 500 persons have been treated with this material in both 40 and 20

per cent solutions. The disadvantage of Phenyl Cellosolve is largely the fact that it is not freely available.

In a rather short article, Blackstock [5] reports the use of a proprietary compound referred to as ascobial for the treatment of *pediculosis capitis*. This compound, to the best of the knowledge of the writer, is similar to the 50 per cent emulsion of benzyl benzoate,[6] extensively used in the treatment of scabies. This product was experimentally used by the writer in coöperation with public health nurses and social welfare workers with excellent results. A 50 per cent emulsion of benzyl benzoate was diluted with equal parts of tap water and applied to the hair and scalp with some modification of the Blackstock technique. Twenty-five households, representing 263 persons, were treated by this method without the recognition of a single failure. In three instances, lice were found 3 weeks after the first application of treatment but these three apparent failures were attributed to reinfestation, and sufficient evidences of exposure were available to justify this conclusion.

PROCEDURE OF TREATMENT

1. The hair must be carefully shampooed to remove all oil and dirt.
2. Allow the hair to dry.
3. Have the patient sit in a chair and tilt his head slightly backward.
4. Cover the patient's neck and shoulders with a towel or some similar cloth.
5. Cover the eyes with folded pieces of paper towelling.
6. Apply 25 per cent benzyl benzoate emulsion with a large absorbent cotton swab or 1½ inch flat paint brush. Apply generously to the hair and scalp, starting preferably from the hair line and working the material against the nap of the hair. The treatment should be applied generously to give assurance of thorough contact of the medication with hair and scalp.
7. Comb the hair in the usual manner.
8. Twenty-four hours later shampoo the hair carefully.
9. Allow the hair to dry—comb and brush thoroughly.

This procedure should be carefully followed and, if adhered to, excellent results may be obtained. The crusting and scalp infection occasionally observed with *pediculosis capitis* was seen to clear up remarkably well in this series of cases.

After the course of treatment, no live lice are found, and the nits that remain are loose and easily brushed out of the hair. It was also observed that these removed nits present the appearances of shells rather than the firm, adhesive and pearly-white characteristics of the nits in untreated heads.

The patients may complain of a slight irritation of the scalp. These complaints are more frequent with heavy infestations of long standing. This is probably due to the fact that the scalp has been excoriated with the continued scratching. It should be noted that some reactions to benzyl benzoate have been noted in the literature. Daughtry [7] reports some local reactions in cases treated with benzyl benzoate for scabies. These observations by Daughtry and those observed by the writer are not of sufficient importance to contraindicate the use of a lousicide or scabicide as effective and efficient as benzyl benzoate.

SUMMARY

Benzyl benzoate emulsion, 25 per cent, is reported as an excellent treatment for *pediculosis capitis*.

Its efficiency as a lousicide and its availability make this treatment the most desirable.

No serious complications or failures were observed in this series of treated cases.

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Advisory Health Group Meets

At a meeting of 30 leaders in public health and civic activities called by the Department of State under the Chairmanship of Dr. Thomas Parran in October, prompt action in developing an international health organization was urged. The group recommended that the United States Government associate itself immediately with other nations in taking steps leading to the early formation of a new and broad international health organization, to be closely linked with the Economic and Social Council of the United Nations.

Certain general functions visualized for the organization are the collection and analysis of world-wide disease statistics as a basis for epidemic control; assistance to national health services to control diseases at their sources; centralization, consolidation and subsequent distribution of health and medical knowledge; stahdardization and control of drugs and other therapeutic agents.

Under Secretary of State Dean Acheson reported that the delegates at the United Nations Conference on International Organization in San Francisco had unanimously approved calling a general conference for the purpose of establishing an international health organization. He further stated that the department had received notes from Brazil and China requesting the United States to join with them and the United Kingdom, the U.S.S.R., and France in sponsoring the organization.

Attention was directed by the advisory group to the destruction in Europe and Asia of facilities for the maintenance of health and to the dispersal of trained health personnel. Emphasis was placed on the urgency of the need for reconstruction and the early application of new discoveries in the field of medicine and insect control in order to prevent the spread of epidemics during the post-war period.

Members of the group made specific suggestions as to the scope and structure of the contemplated new organization, and urged that the United States use its influence to create an organization which would be technically competent and at the same time representative of the interests of the peoples of the world.

Among those attending from the field of public health were:

Margaret Arnstein, R.N., Consultant Public Health Nurse, State of New York Department of Health
Walter L. Bierring, M.D., Commissioner, Iowa State Department of Health
E. L. Bishop, M.D., Director of Health, Tennessee Valley Authority
Frank G. Boudreau, M.D., Director, Milbank Memorial Fund
Louis I. Dublin, Ph.D., Second Vice-President and Statistician, Metropolitan Life Insurance Company
Kendall Emerson, M.D., Managing Director, National Tuberculosis Association
G. Ford McGinnes, M.D., National Medical Director, American Red Cross
Lowell J. Reed, Ph.D., Dean, Johns Hopkins School of Hygiene and Public Health
George Strode, M.D., Director, International Health Division, Rockefeller Foundation
William H. Taliaferro, Ph.D., Department of Bacteriology and Parasitology, University of Chicago
C.-E. A. Winslow, Dr.P.H., Editor, *American Journal of Public Health*
Abel Wolman, Dr.Eng., Professor of Sanitary Engineering, Johns Hopkins School of Hygiene and Public Health

The Journal Is 35 Years Old

REGINALD M. ATWATER, M.D., F.A.P.H.A.

Chairman, Editorial Board, and Managing Editor

IN 1945 the thesis of a candidate for the Degree of Master of Public Health analyzed health education material and its changing emphases in the *Proceedings* of the Association beginning in 1873, and in the *Journal* to the present time. It was logical and intelligent to start with the annual volumes of *Transactions* and to regard them and the *Journal*, when it came along, as one and the same thing. For the *Journal* did not spring up like a mushroom in 1911. It evolved; it evolved from the single yearly compilation of *Reports and Papers of the American Public Health Association* to give a growing profession a more dynamic publication schedule.

The *Proceedings* and the *Journal* are a cross-section of the thinking and growth of the Association itself. Of the former Dr. Wilson G. Smillie has said "The first volumes are a mine of information, for they indicate the vital matters that concerned the leaders of that day. Many of the principles that were presented in the very first report have become the foundation stones on which public health in America has been built." [1] But it is the *Journal's* birthday that is being celebrated and, in the best biographical tradition, only the briefest mention can be made of its antecedents.

Of sturdy New England heritage,[2] the *American Journal of Public Health* became the official child of the American Public Health Association in 1909, with Burt R. Rickards as its first editor. It received its present name in 1912. When Livingston Farrand took over the editorship of the *Journal* from Mr. Rickards and Selskar M. Gunn became its business manager in 1912, the Association numbered only 700 members, but they were geographically representative of the United States, its territorial possessions, Canada, Mexico, and Cuba, and of every field of public health. Dressed in sober Quaker gray for the first half of its life, its cover became the present cheerful orange in 1928, when the *Nation's Health*, previously published by The Modern Hospital Publishing Co., was absorbed.

The early years were precarious for a *Journal* with high ambitions. The printer's bill had frequently to be underwritten by the personal credit of the editor, while much unpaid time and thought went into editorial preparation and distribution, but the purposes remained steadfast to "constitute the medium for the exchange of experiences and methods between health officers of the entire country — administration, office forms and methods, finance, etc." and to "furnish the medium for publication of papers and abstracts of papers presented at the meetings of the general Association and its Sections and of the proceedings." In 1914 Selskar Gunn succeeded Dr. Farrand as Editor, and he continued in that post until called to Europe by the first World War. In 1918, A. W. Hedrich combined his duties as Executive Secretary of the Association with the editorship of the *Journal* until the end of 1922. In 1923 Dr. Henry F. Vaughan, then

Health Officer of Detroit, became Editor, and Dr. Mazÿck P. Ravenel, Associate, with responsibility for the editorial section.[3] Later that year Homer N. Calver succeeded A. W. Hedrich as Executive Secretary of the Association, and became Managing Editor of the *Journal*.

When Dr. Vaughan resigned to become President of the Association at the end of 1924, Dr. Ravenel was asked to guide the destinies of the *Journal*. This task he performed with consumate skill and leadership for sixteen years. These were the years of physical and intellectual growth of the public health movement, when the scope of the *Journal's* interests and influence broadened, its editorial policies were shaped, and its majority attained —all under Dr. Ravenel's wise guidance. The names of the late Dr. C. C. Young and his colleagues on the Committee on Meetings and Publications are powerfully associated with some of this period. In 1938, the present Editorial Board was created, with the writer as Chairman.

In 1941, Dr. Ravenel became Editor Emeritus and Dr. Harry S. Mustard, Director of the Columbia University School of Public Health, succeeded him. For nearly four years the *Journal* bore the imprint of his imaginative and spirited writing. In 1944, however, his duties at the University and his extensive extra-curricular writing made it necessary for him to give up the editorship. His successor was Professor C.-E. A. Winslow of Yale University, who now fills the office with scholarly distinction against a background of long and intimate connection with Association and *Journal* affairs.

To understand the *Journal* it is necessary to understand the Association; of the Association it has been said that it owes its unique position to its ability to attach to itself, in terms of persons, all the professional public health resources of the continent at every stage of its history. The *Journal* is of the Association membership, by it and for it, and every volume reflects what the members were doing and thinking year by year.

In the present state of public health development, one is apt to think of the health worker of 25 or 35 years ago as concerned almost exclusively with the control of environmental sanitation, control of communicable diseases, and protection of milk and water supplies. But not a single issue of the *Journal* in those early years was confined to these things. Ideas, stirrings, and aspirations expressed in its pages have only just come to flowering. As early as Volume 7 (1917) Dr. William D. Stovall was discussing "Diagnostic Laboratories in Public Health Work," in which he said "The chief concern of state laboratories should be to keep their field of operation from becoming narrow and constricted." This is a seed that resulted years later, in 1941, to be exact, in the publication by the Association of *Diagnostic Procedures and Reagents*, edited by Dr. Stovall.

In 1916 and 1917, Dr. Frankwood E. Williams and Dr. Haven Emerson discussed alcohol as a public health problem. Even today it is difficult to get a hearing with public health workers for their responsibility toward the alcohol victim.

In Volume 7 also "New Ideas in Food Control" by Harry E. Barnard presaged the present-day attention to nutrition and vitamin deficiency as factors in public health. It said "There is more than passing interest in the fact that practically the only real studies of nutrition reported up to a few years ago were confined to the investigations of animal nutrition."

The *Journal* has been the testing and proving ground for ideas, particularly in the development of standards of public health administration, professional

qualifications of public health workers, and standard methods for laboratory and other procedures. Warning against a headlong rush toward standardization, Dr. Wade H. Frost's cool reasoning in the April, 1936, issue stands as a reminder that "the urge for authoritative pronouncements" needs to be severely limited lest they restrict "the freedom of discussion which is the most essential function of the Association."

History is recorded in names as well as in events. This is especially true of a *Journal* whose progress marches forward on the pens of its contributors. Here are illustrious names—Dr. Peter H. Bryce, Dr. Charles V. Chapin, Dr. W. A. Evans, Dr. Eugene R. Kelley, Dr. Milton J. Rosenau, Professor William T. Sedgwick, Professor George C. Whipple and Dr. William C. Woodward as early Board of Advisory Editors; Dr. Haven Emerson, Dr. Henry F. Vaughan, Dr. Allen W. Freeman, Dr. W. S. Rankin, Professor Nathan Sinai, Professor Ira V. Hiscock and Dr. W. Frank Walker as outstanding exponents of good municipal health administration; Dr. Lee K. Frankel, Dr. F. L. Hoffman, Dr. Raymond Pearl, and Dr. Louis I. Dublin for their work in vital statistics and morbidity reporting; Dr. E. R. Hayhurst, Dr. Alice Hamilton, and Dr. Henry Field Smythe for industrial hygiene; Professor Clair E. Turner and Dr. H. E. Kleinschmidt for health education; Dr. William H. Park, Dr. Arthur Lederer, Dr. Edwin O. Jordan, Dr. A. Parker Hitchens, and Dr. Robert S. Breed as representatives of laboratory contributors; Dr. S. Josephine Baker, Dr. Alfred F. Hess, Dr. H. W. Hill, and Dr. Taliaferro Clark as pioneers in child health; Dr. Henry C. Sherman in nutrition; Dr. Harvey W. Wiley in food and drug control; George W. Fuller, Rudolph Hering, Earle B. Phelps, and Abel Wolman for their work in "the remodelling of national life in the light of modern understanding of sanitary science."

The list of those, living and dead, who have written the *Journal's* history is really much longer. The names of many of them occur throughout the 35 years and appear frequently today. They were part of the 700 members of 1911 and are counted among the 1945 membership of nearly 10,000. (The circulation of the *Journal* this year has averaged 12,700.)

The subjects handled by these and other *Journal* writers cover the entire field of public health. Naturally there have been shifts in emphasis. The world wars jolted what provincialism there was from the *Journal* pages and it is not unusual today to find more than half the articles dealing specifically with matters of world-wide significance, while the page that does not mention world unity is exceptional.

The early issues of the *Journal* are singularly lacking in the discussion of public health nursing problems and in contributions from nurses. Less than a dozen articles by nurses were contributed in the first ten years of publication. Several reasons may account for this gap; there were (and are) two other official journals devoted solely to nursing; the nurses employed in health departments from 1912 to 1925 were fewer than in private agencies (the reverse is now true). In 1923, the Public Health Nursing Section of the Association was organized, the Section "Notes" appeared in 1933, and since that time public health nursing subjects have taken their appropriate place among contributions from other fields.

Recent entrants in the field of public health might consider many of the vexing problems of today quite new, outgrowths of the New Deal, the War, and the public's growing concern with health. Let the pages of the *Journal* disillusion them! Only a few examples are chosen here to show how long ago the seeds were planted.

With regard to national health insurance, in 1913, an article under the title "Public Health Service Not a Medical Monopoly," was followed in December, 1914, by a description of "The Basis of a Sickness Insurance Bill." Health education as a specialized activity deserving its own program was recognized through the *Journal* by the Y.M.C.A. in 1914, in the establishment of a Health Education Bureau. The recurrent question of adequate preparation for health officers concerned the writers of 1912, one declaring in frank discouragement that only 10 per cent were trained, nevertheless citing personal qualities in the untrained group that read like recommended "requirements" of today.

Surveys and studies have always been with us: in 1912, "The Diagnosis of a Sick City," by Dr. George Thomas Palmer, Health Officer of Springfield, Ill., suggested the prime importance of public demand for a thorough survey of the community health situation. Volume 2 (1912) reports a questionnaire on current practices in all cities of 25,000 population or larger in the United States, Canada, Cuba, and Mexico, from which 88 replies were received. Does this not foreshadow the study of the 100 largest cities in the United States finally published in 1923? Thus the current health department surveys of the Association's field staff are descended from a vigorous line of ancestors, direct and collateral.

The Association and the *Journal* have been more than a little occupied in the past three years with the development of a rational plan for the reorganization of local administrative health units, a reorganization that suggests the union of neighboring towns or neighboring counties into larger administrative units. This planning, too, is of honorable descent. In Volume 1, Selskar Gunn, then a professor at Massachusetts Institute of Technology and Board of Health Agent in a Massachusetts city of 27,000, and C. K. Blanchard, Board of Health Agent of Wellesley, Mass., suggested a union of several towns or cities for local health services following the precedent set by consolidated school districts. In Volume 3, Earle B. Phelps in "An Experiment in Public Health Administration" outlined the coöperation of eight Massachusetts towns in certain health matters —milk inspection, laboratory service, or general administration.

In Volume 2 of the *Journal*, housing problems are discussed, followed by a fairly steady flow of articles on the subject until 1920. Indeed, the amount of space devoted to this topic in the early *Journals* is equalled only by the issues since 1935, when the live interest of the A.P.H.A.'s Committee on Housing, and under the stress of wartime conditions, the subject again claims frequent attention. The same problems are frequently discussed over the years, but the real growth in health standards for housing and methods for a scientific rather than an *a priori* analysis of housing conditions can be traced in the pages of the *Journal*.

Adequate salaries concerned us in 1912—as today. "Adequate" has undergone some favorable changes in interpretation, however, for in Volume 1 we find this startling comment: "Although Ware (Mass.) is a little town of only 9,000 inhabitants, this municipality has been able to pay its health officer (need we say part-time) as much as $25 a year." As late as 1917, Volume 7 suggests that $2,000 annually is a fairly good salary for a health officer, but warns that a good sanitarian may have to be accepted, if a good doctor cannot be secured for that salary!

Venereal diseases, to the credit of the *Journal*, called by their proper names from the first without devious euphemisms, are discussed in Volume 2.

The problems of old age disabilities and diseases, called that and not geriatrics, were touched on in 1913; Volume 1 discussed the preventive principles of mental hygiene though the term "psychosomatic medicine" had not burst upon us. Rehabilitation—mental and physical—of the war-worn soldier repeats itself in 1920 and 1945. Interest in personnel policies in administration took root long before 1912 and became a perennial topic, taking on a new growth in 1940 with the Association's interest in the merit system project.

In the 1917 volume there is already evident a real concern with industrial hygiene and public health in such articles as Professor Winslow's "Effect of Atmospheric Conditions upon Fatigue and Efficiency," Richard A. Feiss's "Scientific Management and Its Relation to the Worker," Dr. Francis E. Fronczak's "Modern Chemical Industries and Public Health," Dr. W. H. Rand's "Missing Links in the Chain of Evidence Concerning Occupational Diseases," and Dr. R. P. Albaugh's "The Dangers Connected With the Spray Method of Finishing and Decorating." This variety of subject matter is matched only in some of the more recent volumes.

The *Journal* has made some shifts in departments and coverage. In 1923, Evart G. Routzahn's notes on Health Education and Publicity first appeared. These notes represented a pioneer effort to interpret public health through various publicity media. They continued with uninterrupted interest and vigor until his death in 1939. In 1940, as an outgrowth of these notes, Dr. Donald B. Armstrong began "Credit Lines." In 1933, the Selected Public Health Bibliography was begun by Raymond S. Patterson, Ph.D.—a feature which retains its freshness and originality.

In 1931, the first issue of the Association *Year Book* was published, bringing together annual committee lists and reports in one convenient issue following the *Journal* in format and typography. All but the first two of the twelve *Year Books* were in fact supplements to the annual February or March issues of the *Journal*. In 1942, the *Year Book* became one of the Association's war casualties—not death but malnutrition from lack of paper, printing, and personnel. The abolition of the *Year Book* has temporarily returned Committee Reports to the *Journal*.

Leafing back over nearly 45,000 pages of the *Journal's* 35 Volumes, one is tempted to trace the dominant trends of interest in each of the specialties, but the task is too great and becomes one for the trained historian and statistician. It is sufficient to say that the *Journal* is a vivid reflection of the history of our times. Wars, depressions, the government's growing share in welfare activities, and now the movement toward world organization, have influenced the *Journal* and the Association's activities just as they do the lives of readers and members. The one world concept is simple for public health workers to grasp; it has been their concept all along. In the words of the present editor: "The aims of the American Public Health Association are primarily technological and relate to the clarification of objectives and the improvement of procedures in the field of public health practice. Public health is, however, one of the most far-reaching of human endeavors. It cannot be limited by national boundaries, since the disease germ operates under all flags."

REFERENCES

1. Smillie, Wilson G. *Public Health Administration in the United States.* New York: Macmillan, 2nd Ed., 1941.

2. In 1873, the first volume of the *Annual Reports and Papers of the American Public Health Association* was published in Cambridge, Mass., and

in 1890 appeared the quarterly *Journal of the Massachusetts Association of Boards of Health*. This latter publication was expanded to national scope in 1904, and became the official organ of the A.P.H.A. in 1909. It was taken over by the A.P.H.A. in 1911, and received its present name in 1912.

3. Dr. Ravenel's *Fifty Years of Public Health* had been published in 1921.

NOTE: Grateful acknowledgment is made to the author's associates on the A.P.H.A. staff, in the preparation of this article, especially Mrs. Willimina Rayne Walsh, Miss Martha Luginbuhl, and Miss Dorothy Deming.

The FAO

The Food and Agriculture Organization of the United Nations has already swung into action with the first official meeting in Quebec, Canada, on October 16. The FAO points out that it is not a relief agency, but a permanent organization designed to help prevent the kind of starvation and distress that has always afflicted millions of people, war or no war. Its chief purposes are to raise levels of nutrition and standards of living of the peoples under their respective jurisdictions, secure improvements in the efficiency of the production of all food and agricultural products, better the condition of rural populations, and contribute toward an expanding world economy. The Interim Commission, with a membership of 49 nations, has made available a preliminary report, "The Work of the FAO," which may be obtained from the U. S. Department of Agriculture, Washington, D. C.

Public Health Degrees and Certificates Granted in the United States and Canada During the Academic Year, 1944-1945*

THE Committee on Professional Education of the American Public Health Association presents its annual report of Public Health Degrees and Certificates Granted in the Academic Year 1944–1945. As in previous years, this report is prepared from a questionnaire sent to the administrative officers of the schools offering the degrees, the replies to which were subjected only to statistical review. With the exception of public health nursing students, only graduate students enrolled in courses leading to graduate degrees or certificates have been included in the tabulations. Further, the committee is indebted to the National Organization for Public Health Nursing for the preparation of the figures on public health nursing students and degrees, and for permission to include them here.

The data show the schools offering graduate public health degrees, the number of students enrolled in these courses, and the number of students receiving degress. They do not, however, indicate any implied approval or disapproval either of the individual courses or of the schools, except in the case of programs of study for public health nursing which are approved by the N.O.P.H.N.

The present report is the eleventh consecutive annual report published by the committee. Although a number of changes have been made in the order and format of tables, they contain the same data as in former years and thus retain their continuity and comparability with other years. McGill University in Canada and Loyola University had temporarily discontinued their graduate public health courses.

The tables suggest a number of comments. The first is that there has been a continuing upward trend in both the number of students enrolled and the number receiving degrees, the low point for public health nursing students having been reached in 1941–1942, and for public health and public health engineering students in 1942–1943. Enrollment of public health and public health engineering graduate students, though nearly one-third less than in 1940–1941, was nevertheless nearly one-fifth more than in 1943–1944. In other words, it appears that wartime deficits in training of personnel are already on the way to being wiped out. However, this may be more apparent than real, since there has been a considerable influx of South American students into schools of public health in the United States in the last several years.

It is further worthy of note that the

* For previous reports see *A.J.P.H.*, Vol. 34, p. 1264, Vol. 33, p. 1430; Vol. 32, p. 1360; Vol. 31, p. 1306; Vol. 30, p. 1456; Vol. 29, p. 1338; Vol. 28, p. 863; Vol. 27, p. 1267; Vol. 26, p. 819; Vol. 25, p. 341; Vol. 23, p. 1124.

Table 1.—Universities Offering Graduate Degrees in Public Health or Public Health and Sanitary Engineering, Each University, Academic Year, 1944–1945

University		*Total*	*Dr.P.H.*	*Dr.Engr.*	*Sc.D.*	*Sc.D.Hyg.*	*Ph.D.*	*Ph.D.P.H.*	*Ph.D.C.E.*	*M.P.H.*	*M.C.E.*	*M.S.*	*M.S.P.H.*	*M.S.P.H.E.*	*M.S.S.E.*	*M.S.C.E.*	*M.S.Hyg.*	*M.A.*	*M.A. in Sc.*	*M.A.C.E.*	*M.San.Sc.*	*Engr.C.E.*	*D.P.H.*	*C.P.H.*	*C.M.T.*
Total		..	6	1	2	1	8	2	1	10	3	8	5	1	4	2	1	2	1	1	1	1	1	4	1
Agri. & Mech. College of Texas	E	2	..	..	..	..	×	..	..	..	..	×	..	..	..	..	..	..	..	..	..	..	..	..	..
Columbia University	P.H.	1	..	..	..	..	..	..	..	..	..	..	×	..	..	..	..	..	..	..	..	..	..	..	..
Cornell University	E	1	..	..	..	..	..	..	..	..	×	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Harvard University	P.H.,E	4	×	..	×	..	..	..	..	×	..	×	..	..	..	..	..	..	..	..	..	..	..	..	..
Iowa State College	E	2	..	..	..	..	×	..	..	..	..	×	..	..	..	..	..	..	..	..	..	..	..	..	..
Johns Hopkins University	P.H.,E	6	×	×	..	×	..	..	..	×	×	..	..	..	..	..	×	..	..	..	..	..	..	..	..
Mass. Institute of Technology	E	2	..	..	×	..	..	..	..	..	..	×	..	..	..	..	..	..	..	..	..	..	..	..	..
New York University	E	1	..	..	..	..	..	..	..	..	×	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rutgers University	E	2	..	..	..	..	×	..	..	..	..	×	..	..	..	..	..	..	..	..	..	..	..	..	..
Stanford University	E	3	..	..	..	..	..	..	×	..	..	..	..	..	..	..	..	..	..	×	..	×	..	..	..
State College of Washington	P.H.	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	×	..
University of Alabama	E	2	..	..	..	..	..	..	..	×	..	..	..	..	×	..	..	..	..	..	..	..	..	..	..
University of California	P.H.,E	4	×	..	..	..	..	..	..	×	..	×	..	..	..	..	..	..	..	..	..	..	..	×	..
University of Illinois	E	2	..	..	..	..	×	..	..	..	..	×	..	..	..	..	..	..	..	..	..	..	..	..	..
University of Iowa	E	2	..	..	..	..	×	..	..	..	..	..	..	..	×	..	..	..	..	..	..	..	..	..	..
University of Kansas	E	1	..	..	..	..	..	..	..	..	..	..	..	..	×	..	..	..	..	..	..	..	..	..	..
University of Kentucky	P.H.	1	..	..	..	..	..	..	..	..	..	..	×	..	..	..	..	..	..	..	..	..	..	..	..
University of Michigan	P.H.,E	4	×	..	..	..	..	..	..	×	..	..	×	×	..	..	..	..	..	..	..	..	..	..	..
University of Minnesota	P.H.,E	5	..	..	..	..	×	..	..	×	..	×	..	..	..	×	..	×	..	..	..	..	..	..	..
University of North Carolina	P.H.,E	6	×	..	..	..	..	×	..	×	..	..	×	..	×	..	..	..	..	..	..	..	..	×	..
University of Pennsylvania	P.H.	3	..	..	..	..	..	×	..	×	..	..	×	..	..	..	..	..	..	..	..	..	..	..	..
University of Puerto Rico	P.H.	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	×	..	..	..	×
University of Toronto	P.H.	8	..	..	..	..	×	..	..	..	..	..	..	..	..	..	..	×	×	..	..	..	×[a]	×	..
Vanderbilt University	P.H.	1	..	..	..	..	..	..	..	×	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Virginia University	E	1	..	..	..	..	..	..	..	..	..	..	..	..	..	×	..	..	..	..	..	..	..	..	..
Yale University	P.H.	3	×	..	..	..	×	..	..	×	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

[a] This school also gives D.D.P.H., D.I.H., and D.V.P.H.

NOTE: The designations P.H. and E after the name of the University indicate that the school offers degrees in Public Health and Public Health Engineering respectively.

Table 2.—Graduate Students Enrolled in Public Health and Public Health and Sanitary Engineering Courses, with Professional Background of Public Health Students, Each University, Academic Year, 1944–1945

University		TOTAL	PUBLIC HEALTH														PUBLIC HEALTH ENGINEERING
			Total	*Physicians*	*Dentists*	*Epidemiologists*	*Public Health Laboratory Workers*	*Public Health Engineers*	*Sanitarians*	*Statisticians*	*Public Health Educators*	*Public Health Nurses*	*Nutritionists*	*Teachers*	*Veterinarians*	*Other*	
Total		540	462	161	25	2	50	2	2	6	107	9	7	42	7	42	78
Agri. & Mech. College of Texas	E	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Columbia University	P.H.	10	10	7	1	..	..	1	..	1	..	..	..	..	..	..	..
Cornell University	E	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Harvard University	P.H.,E	58	37[a]	18	..	..	4	..	..	1	5	4	2	..	1	2	21
Iowa State College	E	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Johns Hopkins University	P.H.,E	57	56	47	..	..	5	1	..	1	..	2	..	..	..	..	1
Mass. Institute of Technology	E	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7
New York University	E	10[b]	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10
Rutgers University	E	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Stanford University	E	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
State College of Washington	P.H.	1	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..
University of Alabama	E	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
University of California	P.H.,E	7	7	1	..	..	4	..	..	2	..	..	..	..	..	..	..
University of Illinois	E	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
University of Iowa	E	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
University of Kansas	E	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
University of Kentucky	P.H.	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
University of Michigan	P.H.,E	153	136	30	18	2	3	..	..	1	73	..	1	..	..	8	17
University of Minnesota	P.H.,E	7	5	..	..	..	..	..	..	..	5	..	..	..	..	..	2
University of North Carolina	P.H.,E	73	62	2	..	..	4	..	2	..	3	2	1	40	..	8	11
University of Pennsylvania	P.H.	22	22	17	3	..	..	..	..	..	..	..	..	..	..	2	..
University of Puerto Rico	P.H.	36	36	..	..	..	15	..	..	..	..	..	..	..	..	21[c]	..
University of Toronto	P.H.	53	53	30	3	..	13	..	..	..	..	..	1	..	6	..	..
Vanderbilt University	P.H.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Virginia University	E	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Yale University	P.H.	36	36	8	..	..	2	..	..	..	21	1	2	2	..	..	..

[a] In addition there were 25 part-time students not working for degrees.
[b] Part-time evening students, candidates for graduate degrees.
[c] Candidates for degree of Master of Sanitary Science, professional background not reported.

Table 3.—Students Receiving Graduate Degrees in Public Health and in Public Health and Sanitary Engineering, Each University, Academic Year, 1944–1945

University	*Total*	*Dr.P.H.*	*Ph.D.*	*M.P.H.*	*M.C.E.*	*M.S.*	*M.S.P.H.*	*M.S.C.E.*	*M.S.Hyg.*	*M.A.*	*M.S.S.C.*	*D.P.H.*	*D.D.P.H.*	*D.I.H.*	*D.V.P.H.*	*C.P.H.*	*C.W.T.*
Total	308	8	4	140	1	17	68	1	1	3	18	22	2	1	6	2	14
Agri. and Mech. College of Texas	2	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..
Columbia University	8	..	..	..	..	..	8	..	..	..	..	..	..	..	..	..	..
Harvard University	35	3	..	22	..	10	..	..	..	..	..	..	..	..	..	..	..
Johns Hopkins University	40	2	..	37	..	..	..	..	1	..	..	..	..	..	..	..	..
Massachusetts Institute of Technology	5	..	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..
New York University	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
University of California	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
University of Kentucky	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
University of Michigan	61	1	..	57	..	..	3	..	..	..	..	..	..	..	..	..	..
University of Minnesota	2	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..
University of North Carolina	57	..	..	1	..	..	55	..	..	..	..	..	..	..	..	1	..
University of Pennsylvania	12	..	..	11	..	..	1	..	..	..	.	..	..	..	..	..	..
University of Puerto Rico	32	..	..	..	..	..	..	..	..	..	18	..	..	..	..	..	14
University of Toronto	38	..	3	..	..	..	..	..	..	3	..	22	2	1	6	1	..
Yale University	13	2	1	10	..	..	..	..	..	..	..	..	..	..	..	..	..

Table 4.—Summary of Students Receiving and Institutions Offering Graduate Degrees in Public Health and in Public Health and Sanitary Engineering, Academic Year 1944–1945

Degree or Certificate	Students Receiving Degrees			Institutions Offering Degrees	
	Total	Public Health	Public Health Engineering	Public Health	Public Health Engineering
Total	308	270	38	..	..
Doctor of Public Health	8	8	..	6	..
Doctor of Engineering	..	..	..	..	1
Doctor of Science	..	..	..	..	2
Doctor of Science in Hygiene	..	..	..	1	..
Doctor of Philosophy	4	4	..	3	3
Doctor of Philosophy, Public Health	..	..	..	2	..
Doctor of Philosophy, Civil Engineering	..	..	..	..	1
Master of Public Health	140	130	10	9	3
Master of Civil Engineering	1	..	1	..	3
Master of Science	17	..	17	1	7
Master of Science, Public Health	68	59	9	5	1
Master of Science, Public Health Engineering	..	..	..	..	1
Master of Science, Sanitary Engineering	..	..	..	..	4
Master of Science, Civil Engineering	1	..	1	..	2
Master of Science, Hygiene	1	1	..	1	..
Master of Arts	3	3	..	2	..
Master of Arts in Science	..	..	..	..	1
Master of Arts in Civil Engineering	..	..	..	..	1
Master of Sanitary Science	18	18	..	1	..
Engineer in Civil Engineering	..	..	..	..	1
Diploma, Public Health	22	22	..	1	..
Diploma, Dental Public Health	2	2	..	1	..
Diploma, Industrial Hygiene	1	1	..	1	..
Diploma, Veterinary Public Health	6	6	..	1	..
Certificate, Public Health	2	2	..	4	..
Certificate, Medical Technology	14	14	..	1	..

training load is unevenly divided among the 26 universities reportedly offering graduate courses in public health or public health engineering. Although 540 public health and public health engineering graduate students were enrolled in 18 schools, 90 per cent of these were in 8 universities with enrollments varying from 22 to 153. (The 8 are among the 9 members of the Association of Public Health Schools, and 5 grant degrees in both public health and public health engineering.) The remainder were in 10 schools with enrollments of from one to ten students. Eight schools offering degrees had no students in the courses leading to these degrees in the academic year 1944–1945, a reflection in part of military service requirements.

The 8 universities with 90 per cent of enrollments gave 93 per cent of the degrees granted to 308 students. Only 7 other schools granted degrees to students, ranging in number from 1 to 8. Less than 60 per cent of enrolled students received degrees, a higher percentage than in either 1940–1941 or 1943–1944.

Although the 26 schools offered a total of 26 different degrees, or certificates, ranging from 1 to 8 per school, more than three-fourths of all degrees granted during the academic year were in five categories—Doctor of Public Health, Master of Public Health, Master of Science in Public Health, Diploma in Public Health, and Certificate in Public Health. Five of the separate degrees offered and granted—Master of Sanitary Science, Certificate in Medical Technology, Diploma in

Table 5.—Students Receiving Public Health Nursing Degrees or Certificates, Each of 31 Universities Whose Programs of Study in Public Health Nursing Are Approved by N.O.P.H.N., Academic Year 1944–1945

University	*Number of Students Receiving*			
	Total	*Master's Degree*	*Baccalaureate Degree*	*Certificate* [a]
Total	896	32	392	472
Catholic University of America	37	..	18	19
Columbia University	57	11	30	16
Duquesne University	18	..	6	12
George Peabody College for Teachers	66	6	21	39
Incarnate Word College	10	..	2	8
Indiana University	5	..	3	2
Loyola University	33	..	14	19
Marquette University	12	..	2	10
Medical College of Virginia	28	..	..	28
New York University	130	8	69	53
St. John's University	16	..	2	14
St. Louis University	6	..	6	..
Seton Hall College	14	..	3	11
Simmons College	No report received			
Syracuse University	38	..	5	33
University of Buffalo	10	..	7	3
University of California, Berkeley	29	..	17	12
University of California, Los Angeles	22	..	17	5
University of Chicago	6	1	..	5
University of Colorado	11	..	1	10
University of Hawaii	12	..	..	12
University of Michigan	24	2	11	11
University of Minnesota	101	1	77	23
University of North Carolina	23	1	10	12
University of Oregon	18	..	4	14
University of Pennsylvania	48	..	18	30
University of Pittsburgh	3	..	3	..
University of Washington	24	1	9	14
Vanderbilt University	15	..	1	14
Wayne University	31	1	19	11
Western Reserve University	49	..	17	32

[a] Includes those students completing approved program of study in schools that do not grant certificates.

Dental Public Health, Diploma in Veterinary Public Health, and Diploma in Industrial Hygiene—are offered by the University of Puerto Rico or the University of Toronto, representing terminology current in these regions. Of the 16 other degrees offered only 6 were granted to 27 students in 8 schools in the last academic year.

The analysis of enrollments in graduate public health courses (excluding engineering and nursing) by professional background of the students also has some noteworthy features. Health educators were nearly one-fourth of total enrollments; only five years ago they were only 11 per cent of the total. In addition to the growing importance of health education which this undoubtedly reflects, it of course also reflects the drop in enrollment of physicians, engineers, and sanitarians because of the demands for military and other war service. Conversely the proportion of physicians among enrollees has gone steadily down in the last four years; from 51 per cent in 1940–1941 to 33 in 1943–1944. During the last year it rose only slightly to 35 per cent of the total. Public health laboratory workers were 4 per cent of the total five years ago, 15 per cent in 1943–1944, and 11 per cent in the last year under analysis. Dentists,

Table 6.—Enrollment in Graduate Public Health Courses and Students Receiving Graduate Degrees or Certificates, Five Year Summary, 1941–1945

	Enrollment [a]			Students Receiving Degrees or Certificates			
Academic Year	Total	Public Health	Public Health Engineering	Total	Public Health	Public Health Engineering	Public Health Nursing
Total	2,791	2,292	499	5,797	1,237	245	4,315
1940–1941	775	645	130	1,340	332	59	949
1941–1942	629	466	163	1,077	269	89	719
1942–1943	387	323	64	1,057	159	24	874
1943–1944	460	396	64	1,119	207	35	877
1944–1945	540	462	78	1,204	270	38	896

[a] This information is not available for the 31 schools offering approved programs of study for public health nursing.

although numbering only 25 in 1944–1945, nevertheless were a larger proportion of the total than in any one of the last five years.

The National Organization for Public Health Nursing has, since 1920, had a committee accrediting public health nursing graduate studies. This committee, now called the Committee on Accreditation, surveys for approval graduate programs of study in public health nursing. Nurses who have completed the approved programs of study, consisting usually of one year after completion of R. N. training, and have the accompanying certificates or degrees, generally are given priority in the selection of public health nursing per-

Table 7.—Students Receiving Graduate Degrees or Certificates Summary, 5 Year Period, 1941–1945

Degree or Certificate	Total	1940-41	1941-42	1942-43	1943-44	1944-45
Total	5,797	1,340	1,077	1,057	1,119	1,204
Doctor of Public Health	57	20	12	7	10	8
Doctor of Engineering	5	..	2	1	2	..
Doctor of Science	28	7	17	1	3	..
Doctor of Philosophy	20	2	9	2	3	4
Master of Public Health	631	156	151	83	101	140
Master of Civil Engineering	26	11	6	3	5	1
Master of Science	134	47	28	13	29	17
Master of Science, Public Health	295	90	73	19	45	68
Master of Science, Public Health Engineering	7	..	2	1	4	..
Master of Science, Sanitary Engineering	9	2	4	2	1	..
Master of Science, Civil Engineering	3	..	2	..	..	1
Master of Arts	8	1	1	..	3	3
Master of Arts in Science	4	..	3	1	..	..
Master of Sanitary Science	18	..	..	..	..	18
Master's Degree (Nurses)	182	42	22	43	43	32
Engineer in Civil Engineering	5	3	..	2	..	..
Diploma, Public Health	108	29	19	20	18	22
Diploma, Veterinary Public Health	11	5	..	..	..	6
Baccalaureate Degree (Nurses)	1,695	339	215	388	361	392
Certificate, Public Health	43	18	4	14	5	2
Certificate, Medical Technology	40	..	..	14	12	14
Certificate, Public Health Nursing	2,437	568	482	443	472	472
Other	31	..	25[a]	..	2[b]	4[c]

[a] Includes 24 certificates in Engineering Science and Management Defense Training and one Master of Science in Engineering.

[b] Includes one each of Doctor of Public Health Nursing and Master of Science in Preventive Medicine and Public Health.

[c] Includes one each of Master of Science in Hygiene and Diploma of Industrial Hygiene and two Diplomas in Dental Public Health.

sonnel in those state and local health departments that have merit systems.

Table 5, prepared by the N.O.P.H.N. and used here with its permission, gives the figures for number of students receiving degrees or certificates or completing the program of study in the 31 schools whose programs have been approved by the N.O.P.H.N. Committee on Accreditation.

In the 31 schools, the year's program of study is the major in a degree program, but it may be completed and a certificate granted before all work for a degree is completed. Many of the schools do not grant certificates. Hence, figures in the last column of Table 5 include those students who have completed the approved course of study of one year whether or not the school grants certificates.

In addition, during the past year the N.O.P.H.N. and the National League for Nursing Education have joined in accrediting the School of Nursing of Skidmore College. This college, which offers a four year basic professional curriculum leading to a degree, prepares its students for staff level positions in public health agencies that provide direct nursing supervision. There were 9 of these graduates in the academic year 1944–1945.

W. P. SHEPARD, M.D., *Chairman*

Dr. Walter Reed Elected to Hall of Fame

The Electors of the Hall of Fame for Great Americans at New York University, New York City, have chosen Dr. Walter Reed of yellow fever fame as one to be included among the statues of persons whose statues will hereafter be in the Hall of Fame.

Other persons elected included Booker T. Washington, Thomas Paine, and Sidney Lanier. These were elected by the College of Electors, comprised of ninety-three distinguished men and women from all the states. There were 130 candidates nominated by the public.

The selection raises the total chosen for the Hall of Fame since 1900 to 77. Bronze busts of those elected are placed in the colonnade on the University campus. Dr. James Roland Angell, former President of Yale, is Director of the College of Electors.

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THE AMERICAN JOURNAL OF PUBLIC HEALTH

AN article in this issue of the *Journal* commemorates an important event in our history, the completion of the thirty-fifth volume of the *American Journal of Public Health.*

The Journal has—in spirit, if not in form—a longer life-story. In 1910, the *American Journal of Public Hygiene,* under the editorship of Boston's veteran health officer, S. H. Durgin (and sponsored by the Massachusetts Association of Boards of Health), published its twentieth volume. At the Milwaukee meeting of the A.P.H.A. a Committee on Journal had been appointed under the chairmanship of E. C. Levy, of Richmond, and this committee arranged to take over the Massachusetts *Journal* which in 1911 appeared as the *Journal of the American Public Health Association* under the editorship of B. R. Rickards. In 1912, the present title was adopted.

The first number of the *Journal* for January, 1911, is inspiring in its broad view of the future problems with which our *Association* has been concerned. It contains an article by W. T. Sedgwick "On the Proper Correlation of Physicians, Engineers and other Specialists in Public Health Work"—an analysis of the interrelationships between the various branches of our profession and a plea for sound executive leadership in public health administration. It contains also an article by Frederic Almy on "The Inter-Relation of National Organizations Working in the Interest of Public Health," a consideration of just those relationships between public health and the broader fields of social work, which we are discussing with reference to the Gunn-Platt report today. In more technical fields, it contains papers on terminal disinfection by C. V. Chapin, on a "score system" for determining the relative importance of various infectious diseases by H. W. Hill, and on birth registration and infant mortality by J. H. Mason Knox.

The pioneers of 1911 blazed a clear trail; and during the 35 years which have passed, that trail has been followed under the leadership of Farrand and Vaughan and Ravenel and Mustard.

An *Association* such as ours does not exist primarily for the pleasures of mutual contact or for the protection of the interests of its members. Its most

important rôle is the promotion of constructive collective thinking; and the *Journal* is the medium of expression for our common mind. Emphasis may change from time to time. The 1911 founders included in their vision of the *Journal's* activities popular health instruction; but that function is now performed through other media. In the main, the *Journal*, through all the years, has devoted itself primarily to the discussion and to the dissemination among its members of the latest knowledge of the complex and manifold techniques of public health, in preventive medicine, epidemiology, sanitation, public health practice and social relationships. This is, and should be, its major function. In view of the growing diversification of the public health field, we are now supplementing specialized technical articles by occasional broader reviews, interpreting new and important fields to other groups of our membership.

The present Editorial Board will continue its efforts to follow and improve upon the distinguished achievements of the past. Its success will depend upon you. The Levy Committee said, "The fate of the *Journal* must rest largely with the rank and file of the members of the A.P.H.A." This is as true in 1945 as it was in 1911.

CALIFORNIA'S ANNIVERSARY

IN this *Journal* for December, 1944, we have chronicled the 75th Anniversary of the establishment in Massachusetts of the first State Board of Health in the United States. We cannot let the year pass without paying tribute to California which followed promptly "in the footsteps of the most enlightened commonwealth in America" and which also celebrates this year a seventy-fifth birthday.

The California State Board of Health was created by law on April 15, 1870, and held its first meeting on April 22, at which time Dr. Thomas M. Logan was elected "permanent Secretary." Dr. Logan was one of the outstanding pioneers of public health in the United States with a vision for which he fought with courage and eloquence at the meetings of the A.M.A. and in the legislative councils of his own state. At the meeting on April 22, 1870, he pointed out that

> "When people shall be made to understand the economic and political importance of public health and salubrity, shall our efforts be appreciated, and the wholesome lessons of domestic and civil hygiene, emanating from us, shall be respected as the rules and defences for the person, the domicile, the municipality, and the State.
>
> "According to my construction of the late sanitary legislation respecting a State Board of Health and Vital Statistics, etc., its members are to look after the vital interests and physical condition of the people, just as the boards of education and agriculture look after and promote the intellectual and productive powers intrusted to them. Like these boards, so successful and useful in their administration, ours, in pursuit of its purpose, is to find its own way of usefulness and lay its own plans of operation. We are to endeavor to create an interest in our work among the lay as well as the professional public, and to raise up friends in all parts of the State to cooperate with us in our investigations in gathering sanitary information and in spreading it again abroad. We are to encourage the formation of local boards of health, the registration of births and deaths and marriages, whereby mortality and other reports touching the vital conditions of the people may be obtained monthly, and if possible, weekly. In such reports we will find the first indications of the vital condition of the various parts of the State—the drift of all epidemic influences and the dangers that may be impending."[1]

Logan's emphasis on the importance of statistical controls and the necessity

for enlisting public support through community education was particularly significant and far-sighted; and the first Annual Report of the new Board laid special emphasis on the following nine points as questions "which are pressing most grievously on every class of society."

1. The use of intoxicating liquors
2. Ventilation
3. School room disease
4. Female hygiene
5. Municipal regulations concerning the dead
6. The supply of water to our cities and towns, for sewage as well as domestic supply
7. The sanitary architecture of our public buildings
8. The Chinese from a sanitary standpoint
9. The social evil problem

The California State Board of Health had its ups and down, like all other organizations which depend upon fallible human nature for their operation. The first ten or fifteen years of its history made contributions of national significance. After that, no more Logans appeared on the horizon for a time.

In 1903, after the unfortunate controversy about bubonic plague in San Francisco,[2] the State Board of Health was reorganized under the secretaryship of Dr. N. K. Foster who was succeeded in 1909 by Dr. W. F. Snow, followed by Dr. W. A. Sawyer in 1915. Under these brilliant young leaders, the California Board of Health again attained a position of continental influence. In this phase of its history, outstanding progress was made in sanitation, control of water supplies and sewage disposal; in malaria control; in tuberculosis control; in venereal disease control; and in health education.

In 1943 the service was again fundamentally reorganized and Dr. W. L. Halverson was appointed Director of what was now the State Department of Public Health. Dr. Snow, whose unique contribution to the Department in earlier days entitles him to speak with authority, has said, in personal correspondence with the Editor: "Now, with Dr. Halverson it is thoroughly launched again on what I believe is the most important period of its long and interesting story. We may confidently count on California to be in the top bracket of our states in the pioneering and permanent progress of Public Health and Medicine of the future."

As a famous orator once said of Massachusetts, "There she stands," and California stands at her side.

REFERENCES

1. *California's Health*, 2:141, Mar. 31, 1945. State Department of Public Health, Sacramento.
2. In 1941, a student at the University of California submitted, as an essay in a course in public health, a thesis attempting to prove that the disease in question in 1902 was *not* bubonic plague. Old errors die hard.

MARRIAGE BELLS IN SEATTLE

FOR many years it has been recognized that a single generalized public health nursing service is the ultimate ideal at which we should aim in any community. Rarely, now, do we find six or seven different public health nurses from different agencies visiting a home—as was not uncommon twenty years ago. Many cities, however, still have three staffs of nurses, representing the health department, the board of education and the V.N.A.; and the gap between official and voluntary nursing agencies has been particularly difficult to bridge.

In many communities, the health department has contracted with the V.N.A. to perform certain routine duties (tuberculosis nursing in New Haven, Conn., for example); in some cities (Dayton, Ohio, Columbus, Ohio, Oakland, Calif.), the health department and the V.N.A. have formed a joint nursing staff under a single director; in some (New Orleans, La.), the health department has taken over the fundamental bedside provision of bedside care in the home.

Seattle has now come to the front with a formula which has originality and promise. In 1943, this city had 34 nurses in the Health Department, 20 in the Seattle Visiting Nurse Service, and 23 under the Board of Education. Early in 1944, an agreement was reached by which the first two of these nursing staffs have been completely and effectively amalgamated.

The Community Fund was at first desirous of reducing its budget by merely turning over certain V.N.A. functions to the city; but the City Council refused to assume further financial responsibilities. For this, Dr. R. T. Westman, Acting Commissioner of Health, and Marguerite Prindiville, Director of the Seattle Visiting Nurse Service[1] say they will "always be thankful." They add "We are now convinced that it is exceedingly important in such a program that the private agency continue to maintain its identity and contribute substantially with funds in order to insure continued high standards of program, freedom from partisan politics, greater flexibility of operation and adequate community support and participation."

The first step taken to effectuate a merger on truly coöperative lines was the adoption of a city ordinance creating a Division of Public Health Nursing in the Health Department; providing that the work of this division should include provision of bedside care and that such bedside service could be extended (with the approval of the County Health Officer) to certain areas outside the municipal limits but now served by the S.V.N.S.; and setting up a "Special Nursing Fund" to include contributions from the Community Fund and fees paid for service. The latter is a new and promising administrative device.

The second step was the signing of an agreement between the Health Department and the S.V.N.S. "creating a Division of Public Health Nursing by Amalgamation," an agreement not legally binding and subject to modification by mutual consent or to termination on the initiative of either party. Its ultimate objective is "a completely generalized service, with each nurse assigned to a district, in which she will assume the responsibility for home visiting for every service."

Under this agreement, the Director of the S.V.N.S. becomes the Director of the Division of Public Nursing in the Health Department. Each nurse (an important point, psychologically) wears a standard uniform displaying a tape reading "Seattle Department of Health" and a pin bearing the words "Seattle V.N.S." The budget for the Division of Public Health Nursing will be prepared by the Commissioner of Health, reviewed by the V.N.S. Board, and approved by the Community Fund. The share of the total budget allotted to the Fund will be paid monthly into the Special Nursing Fund of the Health Department.

The Board of Directors of the S.V.N.S. continues as a self-perpetuating body and acts as an Advisory Board of the Division of Public Health Nursing, subject, of course, to final decisions of the Commissioner of Health. The Board continues to make contracts with industries, insurance companies, etc. Its 400 volunteer workers, organized in districts throughout the city, have continued their

activities under the new program; and the V.N.S. has carried out a vigorous campaign of community education in regard to its significance and potentialities.

Obviously, the success of such a plan depends on statesmanship and good mental hygiene. It will not work with a health officer who is a petty bureaucrat or a nurse director who cultivates defense reactions. It seems, after a year, to work admirably in Seattle. In the article cited above, Dr. Westman and Miss Prindiville jointly state that

"The merger has given more to the community than can be measured by statistics alone. It was like a marriage which brought new blood into the family or like a transfusion which put more life into the body. The merger is the most important thing that has happened to public health in Seattle during the last 25 years, and its results will reach far into the future. It has taken the health department out of the doldrums where it had been a long time and has given it more enthusiasm and vigor, and has set up higher standards of performance. This merger has done more to modernize the health department than any other factor. Both the private and official agencies are exceedingly well pleased with the results. An opportunity has finally been given for the citizens to participate in a total health program with a common goal regardless of source of funds."

The Seattle plan is not a complete novelty. Dayton and Columbus, Ohio, have operated programs of essentially similar nature for nearly a quarter of a century. They work under an unwritten gentlemen's agreement: but they provide a single generalized reasonably complete service under the direction of the Health Officer while maintaining the V.N.A. Board in full activity, with pooling of public and private funds. Jane L. Tuttle, Director of the Columbus Instructive District Nursing Association since the plan was inaugurated in 1922, and Dr. N. C. Dysart, the present Health Commissioner, report the program a complete success. Seattle has presented us with an inspiring challenge for progress along similar lines and has devised new and ingenious administrative machinery for meeting this challenge. The health officers of many communities could study this program (and those of Dayton and Columbus) with advantage.

REFERENCE

1. Westman, R. T., and Prindiville, M. The Seattle Nursing Merger. *Pub. Health Nurs.*, 37:294 (June), 1945.

THE 1944 RECORD

THE Bureau of the Census has released figures showing a 1944 death rate from all causes of 10.4 (excluding the Armed Forces overseas), precisely the same figure as the average for 1939–1941. Significant decreases are noted for nephritis (69.2 as compared with 79.8 for 1939–1941); for motor vehicle accidents (18.3 as compared with 27.0 for 1939–1941); for pneumonia and influenza (61.7 as compared with 69.9 for 1939–1941); and tuberculosis. In spite of dire predictions, the 1939–1941 tuberculosis rate of 45.8 fell to 43.1 in 1942, to 42.6 in 1943, and to 41.3 in 1944. This is the lowest figure ever reported for the United States.

An increase occurred in accidents other than motor vehicle accidents, (from 46.5 in 1939–1941 to 53.5 in 1944), largely as a result of airplane accidents in combat training.

The maladies associated with later life showed notable increases. Diseases of the heart went up from a mortality of 285.9 for 1939–1941 to 315.4 for 1944; that from intracranial lesions of vascular origin rose from 89.2 in 1939–1941 to

93.7 for 1944; that from cancer rose from 119.3 for 1939–1941 to 129.1 for 1944. The higher mean age of the population due to the removal of young adults for overseas service is not sufficient to account for these changes. The captains of the hosts of death remain in the same order: 1. Diseases of the Heart; 2. Cancer and other Malignant Tumors; 3. Intracranial Lesions of Vascular Origin; 4. Nephritis; 5. Pneumonia; 6. Accidents other than motor-vehicle accidents; 7. Tuberculosis.

Best Sellers in the Book Service for November

Local Health Units for the Nation. Haven Emerson, M.D. 1945 ..... $1.25

An Appraisal Method for Measuring the Quality of Housing: A Yardstick for Health Officers, Housing Officials and Planners. Part I. Nature and Uses of the Method. American Public Health Association. 1945 ..... 1.00

The Control of Communicable Diseases. American Public Health Association. 6th ed., 1945 ..... .35

Voluntary Health Agencies. An Interpretive Study. Selskar M. Gunn and Philip S. Platt, Ph.D., 1945 ..... 3.00

Diagnostic Procedures and Reagents. American Public Health Association. 2nd ed., 1945 ..... 4.00

Standard Methods for the Examination of Dairy Products. 8th ed. (1941) 3.00

Ways to Community Health Education. Ira V. Hiscock, Sc.D. 3.00

Municipal and Rural Sanitation. Ehlers and Steel, 1943 ..... 4.00

An Introduction to Public Health. Harry S. Mustard, M.D., 1944 ..... 3.50

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BOOKS AND REPORTS

All reviews are prepared on invitation. Unsolicited reviews cannot be accepted.

All books reviewed in these columns may be purchased through the Book Service.

The Bacterial Cell—*By René J. Dubos. Cambridge, Mass.: Harvard University Press,* 1945. 460 pp. Price, $5.00.

The science of bacteriology is comparatively young, and has only recently, in historical terms, begun to emerge from its first decades of primarily descriptive researches into the fields of structural and functional analysis. These investigations have led to contacts between bacteriology, on one hand, and a wide range of branches of physics, chemistry, and biology, on the other. A number of these special applications of chemistry and physics are themselves very young indeed: protein — and nucleic acid — chemistry, electrophoresis, ultracentrifugation and electron microscopy. The evaluation of the appli[illegible] of these specialized sciences to ba[illegible]ology is, therefore, in the current state of development of these researches, particularly difficult for the critical reviewer and particularly valuable for the worker in the field.

Such a contribution to bacteriology and to investigators in bacteriology and immunology has been made by Professor René J. Dubos of the Harvard Medical School and Rockefeller Institute in his recent book. The volume reviews investigations in all relevant fields directed at the nature of the bacterial cell itself, its cytology, structure, physicochemical properties and variation, and at the relation of bacteria to their environment: virulence immunity and immunization, and bacteriostatic and bacteriocidal agents.

But the greatest contribution of Dr. Dubos to the rapidly expanding field of bacteriology is the attitude in which the book is written. The approach is dynamic and analytic throughout; this is particularly valuable in view of the long-term transition from primarily descriptive research in bacteriology.

Perhaps the best major example of a contribution afforded by this dynamic approach is found in the chapter on staining properties, where the mechanisms involved in staining reactions are discussed in chemical and physicochemical terms. An outstanding example of the analytic attitude and method is found in the discussion of virulence. This property, which is too often considered an attribute of an organism *per se* on intuitive and rather vague grounds, is broken down into such component properties as toxigenicity, invasiveness, communicability, and resistance to the defense mechanisms of the host. Each of these in turn is analyzed and its mechanisms discussed. These examples characterize the treatment of the entire subject and should serve to indicate the peculiar value of this monograph to investigators and students of bacteriology.

T. N. HARRIS

How a Baby Grows—*By Arnold Gesell, M.D. New York: Harper,* 1945. 78 pp. Price, $2.00.

There will be lively interest in this book for mothers like the reviewer, not only for the facts about babies' growth, but for the manner of presentation. With some 800 photographs and limited text, Dr. Gesell of the Yale Clinic of Child Development describes the expansion of a baby's physical

control and social interests, considering mainly the first year of life. There are references to the further development of some faculties, such as the ability to draw, and some of the pictures carry the study up to five years.

The illustrations have been taken mostly from moving pictures (The Yale Films of Child Development), so that many are in series; we watch the child learn to reach for a block and pick it up, or turn himself and crawl toward a ball, noting the physical and emotional angles of each effort.

One most interesting page shows the locomotive powers of five children, all at the same age, and each quite different. It goes a step beyond the "don't worry if your baby and his cousin learn at different rates" advice found in every baby book, to show that there are several possible means of accomplishing the same result.

This is a book intended to reveal interesting facts about the growth of a small baby; it has fascination for all who are interested in babies. It does not pretend to tell everything there is to know, but it does present through pictures a unique means of better understanding of children. Excellent for the reading table in the health center. CAROLINE LEONARD

Health Text-Workbook, An Orientation Course in Personal, Racial, Home and Community Hygiene—*By Kathleen Wilkinson Wootten. (4th ed. rev.) New York: A. S. Barnes,* 1944. 212 pp. Price, $1.50.

This text-workbook was developed over a period of years for use of college freshmen in an orientation credit course in health. Various phases of personal, home, community, and racial hygiene are taken up. The health material is divided into 47 chapters, each one outlined as to objectives, study outline, activities, references and illustrative material. Although the material from several chapters may be closely related, there are no overall groupings according to broad subjects. Some topics seem to be treated very briefly, as, for example, the chapter on Food, Nutrition and Weight.

The bibliography is extensive and carefully selected. The introduction contains helpful suggestions as to the use of the text-workbook in making the health course of greatest value to each student.

The small print, and some of the drawings made on a small scale, in the reviewer's opinion, detract from the usefulness of the book.

VIVIAN V. DRENCKHAHN

Industrial Health Engineering in the Tunneling Operations of the Tennessee Valley Authority—*By Frank N. Chirico, M.S. Chattanooga: T.V.A.,* 1945. 135 pp. Free from publisher.

The chief environmental hazards of concern in tunneling were exposures to silica dust, blasting gases, exhaust gases, smoke from Diesel and gasoline operated engines, and undesirable conditions producing fatigue, such as improper lighting, excessive noise, high temperature, and humidity. During the driving of power, diversion, and spillway tunnels, the overall dust concentrations averaging less than 50 per cent free silica were maintained below 10 million particles per cubic foot of air (mppcf). With dust containing as much as 70 per cent free silica, average dust concentrations were maintained below 8.5 mppcf. Positive ventilation rates of 12,000, 21,000, and 25,000 cubic feet of air per minute (cfm) employed in the described tunnels with respective diameters of 16, 20, and 37 feet were adequate when accompanied by proper use of the ventilation equipment and auxiliary control using air-water blast.

The recommended practices for

using Diesel and gasoline operated equipment underground included equipping shovels with gas scrubbers and maintaining the scrubbers in efficient working order, burning high grade fuel containing less than 0.5 per cent sulfur, extending the engine exhaust pipes high above the operator's cab, maintaining the engines in good repair, and discouraging the use of equipment that was old or smoked excessively. The ventilation rate of 25,000 cfm in the 37 ft. diameter tunnels sufficiently reduced the carbon monoxide and nitrogen oxide concentrations below their maximum allowable limit of 100 p.p.m. and 25 p.p.m., respectively. However, this ventilation rate was not sufficient to maintain a clear tunnel so that objectionable gases and smoke would not be irritating to the eyes and would not impair the visibility. It was recommended that the ventilation rate be increased to 30,000 or 35,000 cfm.

Good lighting and reduction of noise were obtained by spacing 50 watt bulbs not more than 25 ft. apart through the length of the tunnel and locating silencers every 1,500 ft. along the ventilation lines. LUCIAN E. RENES

The Health Instruction Yearbook 1945—*Compiled by Oliver E. Byrd, Ed.D. Stanford, Calif.: Stanford University Press,* 1945. 344 pp. Price, $3.00.

Don't mis-read the title and expect to find in this *Yearbook* a manual of health education. What it does offer is content and implementation for health instruction digested from current articles in public health and scientific journals. For instance, of the 316 references in the bibliography, 58 bear the A.M.A. *Journal* " tag " and 17 are from the A.P.H.A. *Journal*.

First published in 1943, the *Yearbook* seeks to keep abreast of the rapidly changing developments and problems in public health, medicine and allied areas, and succeeds very well indeed. It is intended primarily for school health educators, nurses, public health educators, students and interested laymen.

For those unfamiliar with this *Yearbook* the following sampling of 10 of the 20 chapter titles will indicate the range of its subject matter: Health as a Social Problem, Excretion and Health, Fatigue and Rest, Mental Health and Disease, Infection and Immunity, Habit-Forming Substances, Health Services and Facilities, Family Health, Community Health Service, and Trends and Probabilities.

ROBERT W. OSBORN

Food for the World—*Edited by Theodore W. Schultz. Chicago: University of Chicago Press,* 1945. 353 pp. Price, $3.75.

Unlike some discussions of food problems that took place in the midst of the war, the program of the Twentieth Institute of the Norman Wait Harris Memorial Foundation, held at the University of Chicago in September, 1944, was concerned with the long-time aspects of food in international relations. Consequently the 23 papers and related discussion that constitute in effect the proceedings of the Institute as brought together by Professor Schultz are not " dated " now that the war is over. On the contrary, the book makes especially timely reading in connection with the swinging into action of the United Nations Food and Agriculture Organization. The scope of the discussion is indicated by the titles of the several sections: The Food Movement, Population, Nutrition, Food Supplies, International Relations, and Consequences and Policy.

It is perhaps unfortunate that a great majority of the authors and discussants on this international symposium are from this country. However, most of them have been associated with inter-

national activities in the fields covered by the program, and one has only to read the transcript of any of the discussions to realize that the points of view of the participants are individual rather than nationalistic. Although opinions clash on many points, there is no challenge of the fundamental statement from the United Nations Conference on Food and Agriculture that "the first cause of hunger and malnutrition is poverty."

Specialists in many fields will value the book for its competent treatment of the subjects of their immediate concern. The general reader will find his reward in brilliant presentations of broad policy. MARJORIE M. HESELTINE

The Doctor's Job—*By Carl Binger, M.D. New York: Norton,* 1945. 243 pp. Price, $3.00.

The market has been flooded recently with books by doctors; but this is something different. Dr. Binger does not provide us with gossip about his own personal life; nor does he write about politics or philosophy or economics. He writes about medicine. And he does it in a way which is in the tradition of great physicians, from Hippocrates to Osler. He discusses many of the major problems which confront the individual physician in the practice of his profession; and he does it in such a way that physician, as well as patient, may understand better what the "doctor's job" is and how he gets that job done. The book is revealing as to the way in which a physician approaches diagnosis and treatment of the whole man—and not the symptoms of a disease.

There are two major threads which run through this book. The first of these is the importance of psychosomatic medicine, in regard to which Dr. Binger cites numerous clinical cases which are illuminating as to the subtlety and complexity of human personality. A second emphasis is on the responsibility of the physician for meeting proposed changes in the social relationships of the profession to the community which it serves. There are individual conclusions with which not all of us may fully agree; but the spirit in which every problem is approached is transcendently honest and fair and reasonable—wise, and understanding, and humane.

This is a book on medicine, not philosophy. But like any sincere exposition of the aims of a human life, it contains the germs of a philosophy. Dr. Binger's approach may be best summarized in two sentences on the last page of the volume: "Perhaps the world will be a better place some day, but it will be better not only for a television set in every home and for the new use of plastics. It will be better when man looks more deeply into himself and accepts responsibility for the bad as well as the good that is in him, using this crude material to mold himself and to shape and reshape his destiny." C.-E. A. WINSLOW

Psychiatry in Modern Warfare—*By Edward A. Strecker, A.M., M.D., Litt.D., LL.D., and Kenneth E. Appel, Ph.D., M.D., Sc.D. New York: Macmillan,* 1945. 88 pp. Price, $1.50.

Two eminent psychiatrists have condensed a vast fund of information into this well documented and well written little book.

In Part I, which is entitled Psychiatry and the Two World Wars, the authors contrast the nature of warfare in the two wars and evaluate their potentialities as a cause of emotional disturbance both among civilians and the armed forces. Comparative statistics of neuropsychiatric disturbances in the two wars and in the general population are given. While World War II has not produced any new psychiatric entities (with one possible exception) the authors state that

symptomatology is preponderantly different, indicating that probably deeper emotional recesses have been penetrated. Methods of treatment for these conditions are outlined, and general prognoses given. Comments as to the place of psychiatry in the military organization are pertinent, as well as the use of psychiatric man power.

Part II, Demobilization and the Return to Civilian Life, gives us some idea of the change in attitude, orientation, and behavior demanded of the military man when he returns home. Methods of helping the ex-service man are briefly touched upon and a plea is made for improved veteran facilities.

The extensive bibliography is a valuable part of the book. This book will be of use to those interested in what the veteran's experiences have meant to him in terms of his adjustment to civilian life, as well as to physicians, public health nurses, social workers, and personnel workers who are concerned with the maintaining of mental health.

HESTER B. CRUTCHER

Solving Camp Behavior Problems—*By J. Kenneth Doherty. New York: Association Press, Y.M.C.A.*, 1944. 62 pp. Price, $.50.

The author of this unique booklet has had considerable experience with camping problems as chairman of the Committee on Education, University of Michigan Fresh Air Camp, and former Director of Camp Mississauga. He has drawn substantially from the publications of the National Committee for Mental Hygiene and studies carried on through research in child development at the University of Michigan Elementary School. The method of presentation is uniquely his own.

Each chapter categorically takes up some familiar problem of camp life relating to children, states the problem clearly, and then offers possible solutions in a series of brief, to the point, practical paragraphs based largely upon modern methods of mental hygiene.

A select bibliography, valuable for camp situations, is appended. This should prove helpful to camp counsellors, especially to those new in the field.

RICHARD A. BOLT

Public Medical Care—*By Franz Goldmann, M.D. New York: Columbia University Press*, 1945. 226 pp. Price, $2.75.

This book deals with public medical care as a social movement. The first part interprets, analyzes, and appraises public policy in providing, at public expense, facilities and services for the care of the sick.

The second part deals with the problems of planning for medical care facilities, professional services, financing, and administration. It attempts to point out the relative merits of taxation and insurance and their potential value to the development of future broad health programs. A very inclusive index and a list of references are appended.

This book is a masterful marshaling of material and is highly stimulating. It is a textbook, fair and accurate in presentation and vivid in style. It should be required reading for all medical students, internes, residents and practising physicians. It is highly recommended to public health officers, hospital administrators and their trustees, and those interested in social security legislation.

The emphasis placed upon democratic concepts, the advantages of medical group practice, and the obvious tendency toward the development of health insurance schemes of various types deserve high praise.

Two very minor points may be raised. The terms "group clinic" and "outpatient department" should be further clarified. Also, Dr. Goldmann is lenient in his treatment of the attitude of reac-

tionary medical men toward the development of medical group practice units. The document which is quoted on page 66 is a white-washing job which the American Medical Association did on itself and does not deserve the dignity of repetition.

KINGSLEY ROBERTS

Woman's Medical Problems—*By Maxine Davis. New York: McGraw-Hill,* 1945. 220 pp. Price, $2.00.

This is a reasonable and useful presentation, written in the kind of English a doctor can seldom bring himself to employ. Here, the statisticular is turned into the vernacular. Of the 209 pages of text, one-half are devoted to menstruation, pregnancy, and childbirth, a fourth to disorders and tumors, and one-eighth to cancer. One-eighth is also given to contraception—the "rhythm" being treated rather fully. The final section takes up Women at Work.

The three very high authorities to whom acknowledgment is made should have outlawed the few spotty recommendations and statements, such as waiting until eighteen years of age before investigating a delayed menstrual start; the sweeping denouncement of hormone treatment; frequent pregnancy not usually ruining health; the use of stems for labor injuries, and the data on conception control not up-to-date. There is much shrewd counsel, as in selection of one's obstetrician by finding who, in a given community, delivers the doctors' wives, and in specifying carefully the need of exact and early diagnosis, and skilled care.

ROBERT L. DICKINSON

Marriage and Family Counseling—*By Sidney E. Goldstein. New York: McGraw-Hill,* 1945. 457 pp. Price, $3.50.

In the present 457 pages dealing with an interprofessional field of much public concern, we find rather more than a representative contemporary pattern of social ills and suggested remedies.

Of the five categories of problems dealt with, the legal, economic and the ethical are handled with more responsibility than are the medical, or the biological and psychological, as the author describes them.

The marriage counsellor may achieve his or her ambition to create a new profession. However, one cannot accept this volume as a model for professional use.

There is an excess of words and of repetition of commonplace attitudes and comments and there is a dearth of critical and constructive analysis of the bases of human relations.

The decidedly dull text is divided into three Parts and within these are sixteen chapters, besides a long introduction and a useful appendix and index.

Part I deals with the pre-marital conference in 160 pages; Part II discusses Family Counseling; Part III tells of Counseling in Practice as the undertaking of a Consultation Center.

The book shows a serious and methodical attempt to tell the experiences and social ideas of the author.

He belongs to the school that considers that there is no personal responsibility for poverty, crime, or distress, but that the primary fault is that of society, to be corrected by passing laws to alter the social and economic pattern. He emphasizes the weaknesses, defects, impairments and disturbances in the psycho-physical constitutions of men and women as being the cause of most marital maladjustments and tends to exonerate the individuals involved. Few physicians, health officers, or nurses will find much inspiration in this text.

HAVEN EMERSON

A SELECTED PUBLIC HEALTH BIBLIOGRAPHY WITH ANNOTATIONS

RAYMOND S. PATTERSON, PH.D.

Convergential vs. Differential—It seems there are two ways to go about the study of diseases: one is to investigate differences in clinical manifestations; the other is to delve epidemiologically into the divergent causes which may produce the same lesion. This paper, which is concerned with the latter method, is one that requires iron concentration every inch of the way. If you're given to wool-gathering when you read, pass this one up.

AYCOCK, W. L., and FOLEY, G. F. An Epidemiologic Approach to the Study of the Biochemical Mechanism of Motor Neuron Disease—Landry's Paralysis. Am. J. M. Sc. 210, 3:397 (Sept.), 1945.

Swansea Rehouses—Any account of what England is being forced to do to rehouse its homeless should prove of interest to us of this lucky land in which, because we were spared the blitz, our poor have the continuing privilege of living in our still standing slums—and, the way things seem to be going, they will enjoy that privilege for a long while.

BENNETT, J. B. Reconstruction and Housing Problems of Swansea. J. Roy. San. Inst. 65, 4:233 (Oct.), 1945.

About the Book "Voluntary Health Agencies"—Seven top-notch stories interpret the interpretative report of the Gunn-Platt Survey of voluntary health agencies. Current annual public donations amount to $94 per case of poliomyelitis, $22 per case of tuberculosis, $8 per case of cancer, and $.03 per case of heart disease. Perhaps you will feel impelled to add a little interpretation of your own.

BRADLEY, B. From Yesterday to Tomorrow (and six related papers). Survey. 81, 10:253 (Oct.), 1945.

Living on a Volcano—This account of the unusual difficulties which the Seabees overcame in providing an adequate water supply on volcanic, sulfurous Iwo Jima will entertain you even though your only professional connection with the municipal water system is the laboratory sink faucet.

DAY, R. P. "Wildcatting" Water Wells on Iwo Jima. Water Works Eng. 98, 19: 1102 (Sept. 19), 1945.

Persuading Them to Like Spinach—Public health nurses conducted a demonstration of nutritional teaching among sixty Upper Harlem families in 1943. A before-and-after comparison of consumption of vegetables, among other essential foods, suggests that "selective" teaching produces results.

DOWNES, J., and BARANOVSKY, A. An Experiment in Nutrition Teaching by Public Health Nurses. Milbank Quart. 23, 3:227 (July), 1945.

Tough Note—One section of Baltimore had an outbreak of diphtheria in 1944 with an unusual number of deaths and cases of bull-neck. Almost none of the infected children had had tonsillectomies, and 63 per cent had had a history of prior toxoid inoculation. There was no "gravis" strain.

ELLER, C. H., and FROBISHER, M., JR. An Outbreak of Diphtheria in Baltimore in 1944. Am. J. Hyg. 42, 2:179 (Sept.), 1945.

Promin for Leprosy—No claim is made in this paper that promin is a specific remedy for leprosy, but evidence is offered that suggests it to be the treatment of choice, for it is the best treatment ever tested at the National Leprosarium.

FAGET, G. H., and POGGE, R. C. The Therapeutic Effect of Promin in Leprosy. Pub. Health Rep. 60, 40:1165 (Oct. 5), 1945.

In Praise of Exhibits—Myself an "armchair health educator," a scribbler of tracts, I grieve that the health booklet must be condemned to outer darkness just to build a better case for other tools of health education. To make his point about the superiority of exhibits, the author writes a brochure in which he names a particularly useful manual. So it would seem that the pamphleteer's ancient medium must have some continuing value.

GEBHARD, B. Visual Communication in Health Education. Pub. Health Nurs. 37, 10:506 (Oct.), 1945.

"There but for the Grace of God . . ."—In Halifax, which has suffered for some years from a visitation of malignant diphtheria, Schick-negative and immunized children continue to come down with the disease. It can be said that the incidence among Schick-negative children was only a tenth of that of the unprotected population.

GIBBONS, R. J. Diphtheria among Schick-Negative Persons in Halifax, Nova Scotia. Canad. Pub. Health J. 36, 9:341 (Sept.), 1945.

Potentiometers, Spectrophotometers, *et al.*—Expounded here is the thesis that the current trend in water laboratory practice is from chemical to physical methods of analysis. The analysts, I assume, know this already; the gist of the discussion should be made known to administrators, and others interested in community sanitation.

GRAHAM, D. W. Trends in Water Laboratory Practice. J. Am. Water Works A. 37, 10:985 (Oct.), 1945.

Experimental Polio—Here are some suggestive findings: monkeys subjected to exhaustive exercise and chilling during the incubation period of experimental poliomyelitis developed a higher incidence and more severe paralysis than controls. Incidence and severity of paralysis were significantly greater in summer inoculations.

LEVINSON, S. O., MELZER, A., and LEWIS, P. Effect of Fatigue, Chilling and Mechanical Trauma on Resistance to Experimental Poliomyelitis. Am. J. Hyg. 42, 2:204 (Sept.), 1945.

How Death Comes to Old Ontarians—Although mortality among people aged 50 and over in Ontario has not declined during this century, there have been striking drops in deaths from certain causes. Despite the savings from tuberculosis, typhoid fever, respiratory diseases, appendicitis, and peritonitis, the total rates do not go down because of accidents and—as you'd expect—cancer and circulatory diseases.

MCKINNON, N. E. Mortality Reductions in Ontario, 1900–1942. Canad. Pub. Health J. 36, 9:368 (Sept.), 1945.

"Every School Has Health Policies"—A distinguished committee offers a guide for all concerned with health in schools, mentioning among those to whom it is particularly addressed, boards of education and health, school and community health administrators and their staffs, social workers, parents and professional students. That apparently includes almost everybody, and rightly so.

NATIONAL COMMITTEE ON SCHOOL HEALTH POLICIES. Suggested School Health Policies. J. School Health. 45, 8:184 (Oct.), 1945.

Which Do You Put First?—Says this writer: infant mortality (in England) may be cut down by seven factors: better housing, higher economic standards, more breast feeding, improved neo-natal care, higher standards of pediatric education, better trained public health nurses, and improved hospital care of infants. It would be interesting to compare this order of importance with American opinion.

NEWNS, G. H. The Problem of Infant

Mortality. J. Roy. Inst. Pub. Health & Hyg. 8, 9:225 (Sept.), 1945.

Hypothetical Preventive Medicine—If you missed this one in August, as I did, then you most certainly should not fail to read it now. It is a schematization of practical preventive measures that might be organized on a group basis, which would cost about $5.40 per head.

ROEMER, M. I. A Program of Preventive Medicine for the Individual. Milbank Quart. 23, 3:209 (July), 1945.

The Quick and the Dead—One finding of this comparison of inhalator vs. Schafer methods of resuscitation needs quotation here. "No instance of revival was reported in which more than fifteen minutes elapsed between the cessation of breathing and the start of artificial respiration."

Ross, B. D. Five Year Survey of Methods for Artificial Respiration. J.A.M.A. 129, 6:443 (Oct. 6), 1945.

Let's Have More of This—Given as a part of an in-service training course for physicians and public health nurses, this discussion of infant feeding, weaning, thumb-sucking, toilet training, anxieties and jealousies is just what you need for your own in-service training whatever your job may be.

SPOCK, B. Avoiding Behavior Problems. J. Pediat. 27, 4:363 (Oct.), 1945.

BOOKS RECEIVED

Listing in this column acknowledges the receipt of books and our appreciation to the senders. Space and the interests of readers will permit review of some, but not all, of the books listed in future issues.

AN EXPERIMENT IN THE PSYCHIATRIC TREATMENT OF PROMISCUOUS GIRLS. A psychiatric Study Under the Auspices of the Venereal Disease Division of the U. S. Public Health Service, the California State Department of Public Health and the San Francisco Department of Public Health, January 1943 to June 1944. By Ernest G. Lyon, M.D., Helen M. Jambor, Hazle G. Corrigan and Katherine P. Bradway, Ph.D. San Francisco: San Francisco Department of Public Health, 1945. 68 pp.

BUILDING THE FUTURE FOR CHILDREN AND YOUTH. Next Steps Proposed by the National Commission on Children in Wartime. Children's Bureau, U. S. Department of Labor. Publication 310. Washington, D. C.: Supt. of Documents, 1945. 59 pp. Price, $.15.

A CATALOG OF FILMS FROM BRITAIN MADE AVAILABLE IN THE UNITED STATES. New York: British Information Services, 1945. 35 pp. Free from publisher, 30 Rockefeller Plaza, New York, N. Y.

CHRONIC PULMONARY DISEASE IN SOUTH WALES COALMINERS. III. Experimental Studies. By the Medical Research Council. Special Report Series No. 250. London: His Majesty's Stationery Office, 1945. 94 pp. Price, $1.25.

COMMUNITY ORGANIZATION FOR SOCIAL WELFARE. By Wayne McMillen. Chicago: University of Chicago Press, 1945. 658 pp. Price, $4.75.

EDUCATION IN TRAINING SCHOOLS FOR DELINQUENT YOUTH. Bulletin 1945, No. 5. By Christine P. Ingram in collaboration with Elise H. Martens and Katherine M. Cook. Washington, D. C.: Supt. of Documents, 1945. 93 pp. Price, $.20.

EVERYDAY PSYCHIATRY. By John D. Campbell, M.D. Philadelphia: J. B. Lippincott, 1945. 333 pp. Price, $6.00.

FACTS ABOUT RHEUMATIC FEVER. Children's Bureau, U. S. Department of Labor. Publication 297. Washington, D. C.: Supt. of Documents, 1945. 9 pp. Free from publisher.

FIRST AID TEXTBOOK. By the American Red Cross. Rev. ed. Philadelphia: Blakiston, 1945. 254 pp. 264 illus. Price, cloth $1.00, paper $.60.

THE GREAT STEWARDSHIP. A STORY OF LIFE INSURANCE. By Albert W. Atwood. New York: Harper & Bros., 1945. 201 pp. Price, $2.50.

GROUP HEALTH INSURANCE AND SICKNESS BENEFIT PLANS IN COLLECTIVE BARGAINING. By Helen Baker and Dorothy Dahl. Princeton: Princeton University Press, 1945. 89 pp. Price, $1.50.

HEALTH BULLETIN FOR TEACHERS. Vol. XVI,

1944–1945. Modern American Health Heroes. 2nd series. New York: Metropolitan Life Insurance Co., 1945. 16 pp. Free.

HEALTH PRACTICE INDICES, 1943–1944. American Public Health Association. New York: American Public Health Association, 1945. 87 pp. Free from publisher, 1790 Broadway, New York 19, N. Y.

THE HOME TOWN JOB. A Report on Community Services for Veterans. By the National Committee on Service to Veterans. New York: National Social Work Council, 1945. 30 pp. Price, $.10.

HOW TO RAISE A HEALTHY BABY. Complete Information from Birth to the Sixth Year. By L. J. Halpern, M.D. New York: Prentice-Hall, Inc., 1945. 388 pp. Price, $1.95.

IN THE DOCTOR'S OFFICE. THE ART OF BEING A MEDICAL ASSISTANT. By Esther Jane Parsons. Philadelphia: J. B. Lippincott, 1945. 295 pp., illus. Price, $2.00.

INTERNATIONAL HEALTH DIVISION. Annual Report, 1944. The Rockefeller Foundation. New York: Rockefeller Foundation, 1944. 159 pp. Free.

JUVENILE DELINQUENCY AND THE SCHOOL. By William C. Kvaraceus. Yonkers-on-Hudson: World Book Co., 1945. 337 pp. Price, $2.00.

THE MANAGEMENT OF THE MIND. By Milton Harrington, M.D. New York: Philosophical Library, 1945. 200 pp. Price $3.00.

MICROBIOLOGY FOR NURSES. By Charles G. Sinclair, M.D. 6th ed. rev. Philadelphia: F. A. Davis, 1945. 265 pp. 69 illus. Price, $2.75.

ORAL HEALTH. By H. Shirley Dwyer, D.D.S. Philadelphia: W. B. Saunders, 1945. 132 pp. 12 illus. Price, $1.25.

PHYSICAL CHEMISTRY OF CELLS AND TISSUES. By Rudolf Hober, M.D. Philadelphia: Blakiston, 1945. 676 pp. 70 illus. Price, $9.00.

PHYSICIANS' GUIDEBOOK TO PUBLIC HEALTH LABORATORY SERVICES. Connecticut State Department of Health. Hartford: Connecticut State Department of Health, 1945. 128 pp. Free.

PINEVILLE HIGH MEETS THE CHALLENGE. A story of the effects of Hookworm and ways of treating and preventing the disease. By Dorothy C. Stephens. Jacksonville: Florida State Board of Health, 1945. 54 pp. Price, $.10.

THE PSYCHOLOGY OF SEEING. By Herman F. Brandt. New York: Philosophical Library, 1945. 240 pp. Price, $3.75.

REORGANIZATION OF COMMUNITY SERVICES. Prepared by the Committee of Consultants on Community Reorganization of the Woman's Foundation. New York: Woman's Foundation, 1945. 32 pp. Free from publisher, 10 E. 40th St., New York, N. Y.

RORSCHACH'S TEST. II. A VARIETY OF PERSONALITY PICTURES. By Samuel J. Beck, Ph.D. New York: Grune & Stratton, 1945. 402 pp. Price, $5.00.

SAFEGUARDING YOUR HEALTH. A COMMUNITY HEALTH SERVICE. Morgantown: Monongalia County Health Dept. and West Virginia Public Health Training Center, 1945. 36 pp. Free.

SCIENTISTS OF TOMORROW. Essays of the Winners of the Westinghouse Science Scholarships in the Fourth Annual Science Talent Search, 1945. Washington, D. C.: Science Service, 1945. 136 pp. (Not for sale.)

STATE AND COMMUNITY PLANNING FOR CHILDREN AND YOUTH. Proposals of the National Commission on Children in Wartime. Children's Bureau, U. S. Department of Labor. Publication 312. Washington, D. C.: Supt. of Documents, 1945. 21 pp. Free from Children's Bureau, Washington 25, D. C.

STRUCTURE AND FUNCTION OF THE HUMAN BODY. By Ralph N. Baillif, Ph.D., and Donald L. Kimmel, Ph.D. Philadelphia: J. B. Lippincott, 1945. 328 pp. 158 illus. Price, $3.00.

VAPOR ADSORPTION. INDUSTRIAL APPLICATIONS AND COMPETING PROCESSES. By Edward Ledoux. Brooklyn: Chemical Publishing Co., 1945. 360 pp. Price, $8.50.

VITAL STATISTICS OF PUBLIC HOUSING RESIDENTS. Pittsburgh Public Housing Reports No. 4. Pittsburgh: Federation of Social Agencies, 1945. 24 pp. Price, $.25.

VITAMINS AND HORMONES. ADVANCES IN RESEARCH AND APPLICATIONS. Vol. III. Edited by Robert S. Harris and Kenneth V. Thimann. New York: Academic Press, 1945. 420 pp. Price, $6.50.

WHAT THE INFORMED CITIZEN NEEDS TO KNOW. Edited by Bruce Bliven and A. G. Mezerik. New York: Duell, Sloan & Pearce, 1945. 377 pp. Price, $3.00.

WHEN YOU MARRY. By Evelyn Millis Duvall and Reuben Hill. New York: Association Press, 1945. 450 pp. Price, $3.00.

YOUR CHILD FROM ONE TO SIX. Children's Bureau, U. S. Department of Labor. Publication 30. Washington, D. C.: Supt. of Documents, 1945. 147 pp. Price, $.15.

DENTAL HYGIENISTS. The Outlook for Women in Occupations in the Medical and Other Health Services. Women's Bureau, U. S. Department of Labor. Washington, D. C.: Supt. of Documents, 1945. Bulletin 203, No. 10. 17 pp. Price, $.10.

ASSOCIATION NEWS

STANDARD METHODS FOR THE EXAMINATION OF WATER AND SEWAGE

Summary of Recommended Changes for the Ninth Edition

IN preparing the manuscript for the ninth edition of *Standard Methods for the Examination of Water and Sewage*, it was evident to the Joint Editorial Committee that a rather comprehensive revision, both in organization of material and of procedures, was desirable. Since no member of the committee was in a position to undertake such a revision, the American Public Health Association and the American Water Works Association on recommendation of the Joint Editorial Committee asked Dr. George E. Symons, Associate Editor of *Water Works and Sewage*, to serve as editorial consultant. Dr. Symons has been at work on this revision for the past 10 months. The manuscript is now complete, except for minor editorial changes. All portions have been submitted, after editing, for approval to at least one member of the committee, and in some cases the proposed text has been resubmitted to special committees which had prepared the original material. The methods for sewage examination were prepared by a special committee of the Federation of Sewage Works Associations and approved by the Board of Control of that Association for inclusion in Standard Methods. Only such changes in the sewage analysis methods have been made as were necessary for conformance to the style of Standard Methods.

The following summary of changes and additions for this ninth edition has been prepared by Dr. Symons.

A. *Organization and Format*—

Part I includes physical and chemical methods for water analysis. These methods have been arranged independently of the type of water being analyzed. Persons interested in special types of water will find the suitable methods under the appropriate constituent for which assay is required.

Part II contains methods for examination of sewage, sewage effluents, sludges, muds, and industrial wastes. Part III includes microscopic examinations. Part IV contains bacteriological methods.

Some of the procedures listed in Appendix I (Non-Standard Methods) of the eighth edition have been included as standard procedures, a few have been deleted, and a few added. Appendix II contains a new list of A.C.S. Reagent Grade Chemicals and a new section in which directions are found for making the more common laboratory reagents. This eliminates unnecessary repetition in the text. Directions for making special reagents are given in the main text.

The bibliographies have been revised and articles on which a method is based are listed in chronological order at the end of each section. Reference numbers have been eliminated. Cross-references now include page number as well as Part and Section. Formulas for calculating results are included in each determination. The Index has been revised and enlarged.

B. *Revision of Methods*—

Part I.—Examination of Water—Physical and Chemical

Oxygen consumed: Omitted.

Odor: Completely revised.

Hardness: Palmitate method added.

pH: Glass electrode method added.

Carbon dioxide: Includes evolution technic and new table and graph for calculation from ionic activities.

Bicarbonate ion: Formulas for calculation.

Carbonate ion; hydroxyl ion: Precipita-

tion methods, and formulas for calculation.

Oil: Evaporation and extraction, or wet extraction.

Silica: Variations of colorimetric method added.

Arsenic: (New) Gutzeit method.

Aluminum: Colorimetric method using aurin-tricarboxylic acid.

Iron: Bypyridine, and phenanthroline colorimetric methods added.

Chromium: (New) Colorimetric method using diphenylcarbazide.

Zinc: Nephelometric method only.

Calcium: Revised.

Magnesium: Titan yellow method added.

Sodium: Uranyl zinc acetate reagent.

Potassium: Colorimetric method added, using sodium cobaltinitrite and potassium dichromate.

Chloride: Both Volhard and Mohr Methods.

Fluoride: Scott modification of Sanchis's Method (AWWA Committee).

Ortho-phosphate: (New) Oravimetric and colorimetric using amino-naphthol-sulfonic acid or stannous chloride.

Pyro-phosphate: (New) Manganous chloride separation or difference method.

Meta-phosphate: (New) Barium chloride separation or difference method.

Boron: Electrometric titration.

Cyanide: Colorimetric, using yellow ammonium sulfide.

Tannin and Lignon: (New) Colorimetric or photometric using phospotungstic or phosphomolybdic acids.

Residual Chlorine: Completely revised by AWWA Committee, including orthotolidine method, iodometric method, orthotolidine arsenite method and drop dilution method for field use.

Chlorine Demand: Two methods, one for Laboratory use and one for field use. (AWWA Committee.)

Dissolved Oxygen: Revised.

Hydrogen-Sulfide: Evolution or colorimetric method or calculation from pH.

Methane: (New) Gasometric method

Part II: Sewage, Sewage Effluents, Industrial Wastes, Polluted Waters, Sludges, and Muds.

The revision by the Committee of the Federation of Sewage Works Associations contains these significant changes:

Albuminoid Nitrogen: Deleted.

Organic or Total Nitrogen: Distillation into Boric Acid.

Nitrate Nitrogen: Revised to include technics for industrial wastes, and colored sewage.

Dissolved Oxygen: Completely revised. Alsterberg and Alum Flocculation Method added. D. O. in Activated Sludge added.

Oxygen Consumed: Procedure for brine and strong sewage added.

Biochemical Oxygen Demand: Standard dilution water, procedure for chlorinated sewage and dilution method for sludges and muds added.

Residue or Solids: New method for settleable solids.

pH: Glass electrode new standard.

Residual Chlorine: Revised to conform to technic for Water, Orthotolidine, starch iodide methods; spot plate test for field use.

Chlorine Demand: Conforms to technic for water.

Sulfides: Methylene Blue colorimetric method added.

Grease: New extraction technic using petroleum ether.

Solids in Activated Sludge: (New) Aluminum dish method.

Part III. Microscopical Examination of Water, Sewage Sludge, and Bottom Sediments: revised and rewritten. New equipment and new forms for reporting results are included.

Part IV. Bacteriological Examination of Water. Tryptone Glucose agar has been added as a plating medium, and Lauryl Sulfate Tryptose Broth for coliform test. Fuchsin broth and Formate Ricinoleate broth have been deleted as a confirmatory medium. The schematic outlines have been revised, as has the section on coliform density. Bacteriological examination of water from swimming pools is included as a standard method. The Eijkman test has been added to the section on differentiation.

Appendix I: Non-Standard Methods.

New sections introduced into the Non-standard Methods include Chromium, Selenium, Volatile Acids in Digestive Sludge, Oxygen Demand and Activity of Activated Sludge, Grease in Sewage Sludge (by wet extraction and by extraction of coagulated sludge), and Colorimetric pH of Sewage and Sludge.

Revised sections in Appendix I include Phenols in Water, British Bacteriological Practice, and Organic Carbon in Sewage. Other sections taken from the 8th edition include pH Buffers and Indicators, Lead, and Phenols in Streams.

JOHN F. NORTON, PH.D., *Chairman*
Joint Editorial Committee

In our opinion the Ninth Edition of Standard Methods for the Examination of Water and Sewage has been carefully prepared under good auspices and is now ready to be considered on its merits. Since it is physically impossible to circulate the manuscript, we recommend that this digest as prepared by Dr. Norton and Dr. Symons be accepted as representing the changes proposed in the new edition.

KENNETH F. MAXCY, M.D., *Chairman*
Committee on Research and Standards

ABEL WOLMAN, DR.ENG., *Chairman*
Executive Board

APPLICANTS FOR MEMBERSHIP

The following individuals have applied for membership in the Association. They have requested affiliation with the sections indicated.

Health Officers Section

Jayanta K. Bhattacharya, M.B., D.P.H., Rockefeller Foundation, 49 W. 49 St., New York 20, N. Y., Officer-in-Charge of Training, Singur Health Center, Government of Bengal

Frank V. Chappell, M.D., M.P.H., 1420 Tampa St., Tampa, Fla., Director, Hillsborough County Health Dept.

James Z. Davis, M.D., 115 South State St., Salt Lake City, Utah, Health Commissioner

Ernest M. Conrad, M.D., 615 Anderson Bank Bldg., Anderson, Ind., Commissioner of Health, Anderson and Madison County

Grady Deaton, M.D., Civil Courts Bldg., Houston, Tex., Director, Harris County Health Unit

Dr. Pedro Martinez-Saravia, Independencia No. 2, Santiago, Chile, Medico Inspector General, Direccion General de Sanidad

John W. Smillie, M.D., U.S.P.H.S., 300½ Broad St., Albany, Ga., Asst. Surgeon, U. S. Public Health Service

Ruth J. Temple, M.D., M.P.H., 5425 South Central Ave., Los Angeles, Calif., District Health Officer, City Health Dept.

Laboratory Section

Edward C. Berry, Ph.D., Kadlec Hospital, Richland, Wash., Bacteriologist

Luis Fernando Gomez-Lince, M.D., Instituto Nacional de Higiene, Guayaquil, Ecuador, Head of Diagnostic Dept.

Major John D. Reese, M.C., Ninth Service Command Laboratory, Fort Lewis, Wash., Executive Officer

Vital Statistics Section

Octavio Cabello G., M.P.H., C.E., Direccion General de Sanidad, Santiago, Chile, Jefe-subrogante, Departmento de Bioestadistica

George Kerchner, 140 Clarkson Ave., Brooklyn 26, N. Y., Senior Statistician, New York City Dept. of Health

Engineering Section

Glenn J. Hawkins, 310 Australian Ave., Palm Beach, Fla., Sanitary Technician, U. S. Army Air Forces

Roy N. Johnston, C.E., State Board of Health, National Reserve Bldg., Topeka, Kans., Engineer for Local Health Administration

James A. Reyniers, M.S., 1310 Grant St., Niles, Mich., Professor of Research Bacteriology and Director, Laboratories of Bacteriology, University of Notre Dame

Richard A. Rhodes, Somerville, Tenn., Senior Sanitarian, Fayette County Unit of Tennesee State Public Health

Food and Nutrition Section

Lillian Anderson, M.A., Community Service Society, 105 E. 22 St., New York 10, N. Y., Director, Nutrition Bureau

Virginia A. Beal, M.P.H., 55 Shattuck St., Boston 15, Mass., Asst. in Nutrition, Department of Maternal and Child Health, Harvard School of Public Health

Robert F. De Long, M.S., 6525 So. California Ave., Chicago 29, Ill., Chief Bacteriologist in charge of Research and Technical Service, National Aluminate Corp.

Elizabeth A. Porter, 41 W. Turnbull Ave., Upper Darby, Pa., Nutritionist, State Dept. of Health

G. Dorothy Williams, M.S., 125 Worth St., New York 13, N. Y., Chief, Nutrition Division, Dept. of Health

Maternal and Child Health Section

Hart E. Van Riper, M.D., National Foundation for Infantile Paralysis, 120 Broadway, New York 5, N. Y., Asst. Medical Director

Public Health Education Section

Virginia C. Acland, M.P.H., 10 Chestnut St., Quincy, Mass., Public Health Educator, Anti-Tuberculosis Assn. of Quincy

Jacob R. Bitner, M.A., 2315-20th St., Columbus, Nebr., Supt. of Schools

Lenore E. Headley, 310 Cedar St., New Haven, Conn., Student, Yale School of Public Health

Lloyd M. Jones, Ph.D., 112 Irvin Hall, Penn. State College, State College, Pa., Professor of Physical Education

M. Elizabeth Knowles, M.S., 4812 Baltimore Ave., Philadelphia 43, Pa., Director of Social Service, Hospital of the Woman's Medical College of Pennsylvania

Sister M. Leonis, M.S., 5303 McBride Ave., Cleveland 4, Ohio, Director, St. Alexis School of Nursing

Aletha J. Moody, 4006 Lee Highway, Arlington, Va., Exec. Secy., Arlington County Tuberculosis Assn., Inc.

Edward W. Palmer, Ed.M., 1551 Franklin Ave., Mineola, N. Y., Exec. Secy., Nassau County Cancer Committee

Public Health Nursing Section

Elizabeth G. Bell, 310 N. Pine, Santa Maria, Calif., Staff Nurse, Santa Barbara County Health Dept.

Clinton E. Burnett, M.A., 515 North Carancahua, Corpus Christi, Tex., Asst. Superintendent and Supervisor of Nurses, Corpus Christi Independent School District

Mary F. D. Chamberlain, M.A., Box 251, Marysville, Calif., Supervising Public Health Nurse, Sutter-Yuba Health Dept.

Helen V. Connors, R.N., 270 Fairmont Ave., Jersey City, N. J., Head Nurse, Metropolitan Life Insurance Company Nursing Service

Katherine M. MacMillan, R.N., 636 Grand Ave., St. Paul 5, Minn., Asst. Director, St. Paul Family Nursing Service

Pearl V. Sayles, Rt. 1, Box 246, Tucson, Ariz., Supervising Nurse, Pima County Health Dept.

Marie E. Wallace, 3828 N. Chesterbrook Road, Arlington, Va., Public Health Nursing Consultant, Employees Health Service, U. S. Public Health Service

School Health Section

William H. Gilliatt, M.D., 446 N. 5th, Coalinga 1, Calif., School Physician

Barbara B. Kebe, M.S.P.H., Bishop College, Marshall, Tex., Health Educator and Director, Health Education Dept.

Harriet E. Spangler, R.N., 33 Third St., Hanover, Pa., School Nurse, Hanover Public Schools

Edward J. Storey, Ed.D., 330 Carroll Ave., Mamaroneck, N. Y., Director of Health and Physical Education, Mamaroneck Public Schools

Edith G. Bearer, R.N., 22 McKee Ave., Monessen, Pa., School Nurse and Home Visitor, Monessen Board of Education

Unaffiliated

Per Johannes Hedenius, M.D., Sjukhusdirektionen, Vasagatan 6, Stockholm, Sweden, Medical Adviser to Swedish Legation

Amadeo Vicente-Mastellari, M.D., P. O. Box 629, Panama City, Rep. of Panama, Director, Division de Tuberculosis, Seccion de Sanidad y Asistencia Publica

APPOINTMENT OF COMMITTEE FOR THE EVALUATION OF METHODS TO CONTROL AIR-BORNE INFECTIONS

A subcommittee of the Committee on Research and Standards has been appointed to study methods for the control of air-borne infections. Personnel of the committee is as follows:

James E. Perkins, M.D., *Chairman*
F. W. Gilcreas
Alexander Hollaender, Ph.D.
Alexander Langmuir, M.D.
O. H. Robertson, M.D.
William F. Wells
George M. Wheatley, M.D.
C. P. Yaglou

Dr. Perkins has described the purposes of the committee in his review article "Evaluation of Methods to Control Air-borne Infections" published in the September *Journal*.

EMPLOYMENT SERVICE

The Association Employment Service seeks to bring to the attention of appointing Officers the names of qualified public health personnel and to act as a clearinghouse on employment. This is a service of the Association conducted without expense to the employer or employee.

From the registry of persons available, selected announcements are published from time to time. Appointing officers may obtain lists of all registrants on request.

Address all correspondence to the Employment Service, American Public Health Association, 1790 Broadway, New York 19, N. Y.

Positions Available

(Supplemental to list in November Journal)

Wanted: Medical officers for positions. Director of preventable diseases, director of maternal and child health, district health officers; excellent opportunities for right men. Salary to start $4,500 year and travel expense. Positions permanent. Write G. F. Campana, M.D., State Health Officer, Bismarck, N. D.

Wanted: Full-time health officer. If interested address George A. Tierney, 164 Court St., Middletown, Conn., stating age, qualifications and minimum salary expected.

Tuberculosis Control Officer Wanted: Position of Director of Division of Tuberculosis Control, Seattle Department of Health, to be available January 1, 1946. Applicant must be physician qualified for license in State of Washington and have specialized training and/or experience in clinical tuberculosis and public health tuberculosis control. Full-time position, salary $5,940 plus reimbursement for travel. Apply Emil E. Palmquist, M.D., Commissioner of Health, Seattle 4, Washington.

Wanted Immediately: Medical Director to administer state-wide services to crippled children. Minimum requirements include public health background, special training in pediatrics. Write giving personal data, background and training. Salary $4,500. Address Carlyle D. Onsrud, Executive Director, State Welfare Board, Bismarck, N. D.

Wanted: Experienced Health Officer by newly organized Bi-County Health Department, Southern Illinois. Starting salary $5,000 plus travel allowance. Applications received by Mr. Lloyd Cannon, Olmstead, Ill.

Western state seeks two physicians for county health officer positions, one paying $4,800, the other $5,000. Applicants must be graduates in medicine from approved medical school, have not less than 1 year clinical experience in hospital having standards approved by the AMA, successful completion of not less than 1 academic year graduate work in fundamental subjects of preventive medicine in a recognized school of public health. Address **Box RL,** Employment Service, A.P.H.A.

Health Educator Wanted: Must be experienced in community organization on broad health lines. Position expected to lead to executive secretaryship. Salary $2,600. Suburb of New York City. Address **Box CO,** Employment Service, A.P.H.A.

Health Officers Wanted: Positions for bureau directors and district and county health officers now open. Salaries range from $3,900 to $8,400 varying with education and experience and duties assigned. Liberal retirement plan and travel allowance. Write Merit System Supervisor, Florida State Board of Health and Crippled Children's Commission, 201 Professional Building, Gainesville, for application form and full details.

Louisville and Jefferson County Health Department urgently in need of two public health nurses (one Negro, one white) to act as tuberculosis consultants, advise field nurses regarding home visits, participate in student educational program and staff educational program and act as consultants to tuberculosis clinics. Beginning salary $175 per month. Apply Prentiss M. Terry, Director, Louisville Civil Service Board, 300 City Hall, Louisville, Ky.

Wanted: Qualified physicians and nurses with public health education and experience for key positions in the Latin American Republics. For particulars, communicate with Personnel Director, Office of Inter-American Affairs, 499 Pennsylvania Avenue, N.W., Washington 25, D. C.

Health Educator Wanted: For position in voluntary organization in northeastern U. S. Applicant must have specialized training in health education and some experience in community organization. Salary arranged according to experience and training. Apply **Box MT,** Employment Service, A.P.H.A.

Wanted: Dental Hygienists for up-to-date comprehensive program with adults, preschool and school children; full year positions; tenure of office; good salary and liberal travel allowance. Apply Division of Dental Health, State Bureau of Health, Augusta, Me.

Territorial Department of Health—Juneau, Alaska—wants public health staff nurses. Minimum salary $245 Southeastern, $281.75 Interior. Minimum qualifications necessary: year of public health in school of nursing approved by N.O.P.H.N. and two years' experience, one under qualified supervision, preferably in V.N.A. or rural public health. Vacation one month, 14 days sick leave, 38 hour week. Apply directly to Director, Division of Public Health Nursing, Box 1931, Juneau, Alaska.

Wanted: Assistant Chief, Division of Child Hygiene, Ohio Dept. of Health. Salary $4,400–$4,800. Must be graduate of approved medical school, have 1 year's graduate training, plus 1 year training or experience in clinical pediatrics. Experience in maternal and child health desirable. Must be licensed in Ohio or eligible for licensure. Apply Chief of Div. of Child Hygiene, Dept. of Health, State Dept. Bldg., Columbus 15, Ohio.

POSITIONS WANTED

Bacteriologist, age 31, B.A. and M.S. at State University of Iowa. Six years' experience in bacteriology and public health. Seeks teaching fellowship to finish Ph.D. degree. **L-479**

Research bacteriologist, Ph.D. 1941, Sanitary and Food Bacteriology, just released from active duty in Sanitary Corps, wishes position with university or commercial laboratory. Especially interested in water and sewage treatment and purification and in food, bottling and distilling industries. **L-478**

Public Health Engineer, age 40, associate member ASCE, shortly to be released from armed forces desires position in public health or sales engineering. **E-486**

Veterinarian with 3 years' experience in army meat and milk inspection seeks position with city or state health department. Well qualified in animal disease control. **M-461**

Sanitary or public health engineer, age 26, M.S. Harvard, seeks position in northeastern U. S. Experience with U. S. Public Health Service and as sanitary inspector. **E-487**

[END OF A.P.H.A. LISTING]

Opportunities Available

Advertisement

WANTED—(a) Chief of the division of medical services, state department of public assistance; two years' graduate training in pediatrics or orthopedics desirable; duties consist of directing crippled children's program, supervising the adult physical rehabilitation program and serving in an advisory capacity; Southeast. (b) Young physician, man or woman, to join student health department, co-educational college; Pennsylvania. (c) Public Health physician to serve three counties; $5,000, traveling expenses; Middle West. (d) Student health physician; enrollment of 5,000 students; more than 400 on faculty; well-equipped department; Pacific Coast. (e) Young physician with public health background to serve in student health department of university and, also, in department of public health of the medical school; East. (f) Young physician qualified in public health to become associated with program engaged in the production of audiovisual aids toward more satisfactory teaching of preventive medicine and tropical diseases. (g) Several dentists to become associated with department of health; South. **PH12-1** The Medical Bureau, Burneice Larson, Director, Palmolive Building, Chicago 11.

WANTED—(a) Health educator; should have master's degree in education, major in health education and experience in community health education work; advantageous if experienced in community organization; state tuberculosis association; East. (b) Statistician; college graduate especially interested in mathematics required; nursing organization; somewhat rural location; South. (c) Executive secretary; health division comprised of 35 agencies, public and private and serving community of a million population; candidate well-trained in public health field with experience in community organization and health education required; man, not over forty or forty-five, with degree in public health and several years' experience in a health agency required. (d) Health educator to organize and direct program of dental health education; duties include working quite closely with the public schools; must be well qualified in public relations; dentist qualified in public health work eligible; $3,600–$5,000. (e) Health educator with administrative ability to become associated with Rehabilitation program; Middle West. **PH12-2** The Medical Bureau, Burneice Larson, Director, Palmolive Building, Chicago 11.

WANTED—(a) Educational director, combined organization composed of nursing division of county health department, municipal health department and visiting nurses association; must be capable of assisting with development of new organization; Middle West. (b) Outpatient supervisor; unit of university center in Middle West; $200–$225. (c) Three public health nurses; generalized program in modern city health department including antenatal, postnatal, infant, preschool and school hygiene, communicable disease, tuberculosis and venereal disease control; certificates required; central metropolis. (d) Assistant supervisor of nurses and, also, several staff nurses; public health organization, inaugurated two years ago; generalized program; growing organization; excellent opportunity for advancement; South. (e) Public health instructor, university school of nursing; bachelor's degree and some experience in public health nursing required; university medical center; East. (f) Two dormitory nurses; each dormitory houses approximately 200 young women; co-educational college; opportunity for continuing studies toward Bachelor or master's degree; Middle West. **PH12-3** The Medical Bureau, Burneice Larson, Director, Palmolive Building, Chicago 11.

Opportunities Wanted

Advertisement

Dentist, Veteran World War II; certificate from Forsyth Infirmary for Children; several years, public health experience and two years' private practice before joining Armed Forces; available immediately; for further information, please write Burneice Larson, Director, The Medical Bureau, Palmolive Building, Chicago 11.

Well trained public health physician is available for an appointment of administrative character; A.B., M.D., M.P.H. degrees, leading schools; several years, epidemiologist, state department of health; past four years has held important administrative appointment with large teaching institution; for further details, please write Burneice Larson, Director, Medical Bureau, Palmolive Building, Chicago 11.

Public Health Nurse—is available for executive position; B.S. degree Columbia; three years, supervising nurse, state department of health; five years, field supervisor, large industrial company; four years, educational director, public health department, college of nursing.

NEWS FROM THE FIELD

Courtesy of The United States Public Health Service

RETIRING WOMEN SCIENTISTS HONORED—Drs. Ida Bengtson and Alice Evans were guests of honor at a retirement dinner in Washington, D. C., commemorating their years of service with the National Institute of Health, United States Public Health Service. Dr. Bengtson is noted for the preparation of the standard for gas gangrene toxins and antitoxins used by the League of Nation's Health Committee in Copenhagen, Denmark. Dr. Evans studied undulant, or Mediterranean fever. Facing the camera, Assistant Surgeon General L. R. Thompson, Dr. Ida Bengtson, Dr. Alice Evans, Dr. Rolla E. Dyer, Director of the National Institute of Health, and Dr. Margaret Pittman.

A REGIONAL HOSPITAL PROJECT IN NEW YORK STATE

"Seven counties in western New York, forming the trading area of Rochester, have been chosen as the locus of an experiment in regional hospital organization. These counties, Livingston, Monroe, Ontario, Orleans, Steuben, Wayne, and Yates, stretching from Lake Ontario to the Pennsylvania border, have an area of 4,715 square miles and a total population of 713,862, including 324,975 in Rochester. Outside Rochester there are seventeen hospitals, all but five (which together have only 11 per cent of the total bed capacity) being voluntary. It is proposed that these hospitals shall join with the six hospitals in Rochester in coöperation for the betterment of medical and hospital service throughout the region. Educational services would come to focus in the University of Rochester but would be shared by several hospitals in the city.

"In the words of Mr. Southmayd,

director of the Fund's Division of Rural Hospitals, the heart of the experiment is to determine whether a better distribution of better medical care can be achieved through 'concerted voluntary action by hospitals through representative organization on a regional scale.' Such improvement might come about through several channels: the extension of educational opportunities by urban hospitals, and particularly teaching hospitals, to physicians and hospital personnel throughout the region; the exchange of interns and residents; the development of consulting services in clinical medicine, laboratory medicine, and hospital administration; the establishment of accepted standards of administration and operation in all the coöperating hospitals; the initiation of desirable joint services, such as purchasing; and the rational distribution of adequate hospital facilities throughout the region. To initiate and guide such developments it is proposed to establish a membership organization, in which urban and rural hospitals share on an equal footing, with a full-time executive staff.

"Such an experiment in intercommunity organization has few precedents, and an important factor in the decision to begin the experiment in the Rochester region was the maturity of community organization in Rochester itself. The city has a well established Council of Social Agencies and a strong Community Chest; an Industrial Management Council, which has thrown corporate influence behind the development of a successful hospital prepayment plan; and a Hospital Council already functioning smoothly as the joint agent of the six hospitals in the city. Both the machinery and the will to coöperate effectively are present.

"Furthermore, the region as a whole is prosperous, well supplied with hospital beds and with physicians. The quality of hospital service both in and out of Rochester is above the average. In the opinion of the Fund, this is a situation in which the influence of regional organization can be determined—as nearly as is ever possible in the complicated field of social relationships—as a single variable. If, as the Fund hopes, this influence should prove to be considerable and beneficial, it should be possible to recommend the plan with confidence to other regions.

"Through the community fund Rochester will provide $10,000 initially toward the administration of this experiment. The Commonwealth Fund has indicated its willingness to provide $75,000 more for this purpose and up to a maximum of $200,000 annually for capital improvements, over a period of at least five years. The award is conditioned on the early establishment of an organization in the Rochester region capable of conducting the experiment along the lines suggested by the Fund." — *Commonwealth Fund News Letter*, Oct., 1945.

DR. DOULL APPOINTED TO OFFICE OF INTERNATIONAL HEALTH RELATIONS

Dr. James A. Doull, Elizabeth Severance Prentiss Professor of Preventive Medicine and Public Health in the School of Medicine, Western Reserve University, has resigned to join the Regular Corps of the U. S. Public Health Service. His resignation from Western Reserve will take effect March 31, 1946.

In his new position, Dr. Doull will have charge of the newly established office of International Health Relations in the Office of the Surgeon General. In this capacity he will work in close coöperation with the Division of International Labor, Social and Health Affairs in the Department of State. It is anticipated that in the near future a new international health organization will be formed and brought into relationship with the United Nations

Organization and with existing international organizations working in health and related fields. As one of the leading countries in public health matters, the United States will be expected to take an active part in developing the new organization.

Dr. Doull brings a wealth of pertinent experience and knowledge to his assignment. He is widely known for his research work, especially his studies on the common cold, diphtheria, leprosy, and tuberculosis. He has been prominent in the community health affairs, a member of the advisory Board of the Division of Health, Vice Chairman of the Cleveland Health Council, Chairman of the Advisory Council of the Cleveland Health Council, Chairman of the Advisory Council of the Cleveland Health Museum, and President of the Hearing and Speech Center.

On the national level he is a member of the Executive Board and Governing Council of the American Public Health Association and a member of the Advisory Medical Board of the American Leprosy Foundation. He has acted as Editor of the *International Journal of Leprosy*.

Dr. Doull has had three foreign assignments during the war. The first was a special mission to the Pacific for the Lend-Lease Administration to assist Australia and New Zealand to obtain urgently necessary medical supplies. The second was to England for the United Nations Relief and Rehabilitation Administration as a member of an international committee convened in London to draft new sanitary conventions for maritime and aerial commerce and regulations for the medical control of displaced persons in Europe. The third was to Europe with regard to preliminary arrangements for the proposed international health organization. He also attended the San Francisco Conference as an assistant to the United States Delegation.

MESSAGES FROM ABROAD

Dr. Frank G. Boudreau has shared with the Association letters from two of the best known public health workers in Europe. The situation of these two leaders described in the following extracts from their letters needs no further comment. Readers of the *Journal* who would like to share some of their surplus professional books and publications with either or both of these colleagues may send them to Dr. Boudreau for shipment abroad. Address: Dr. Frank G. Boudreau, Millbank Memorial Fund, 40 Wall Street, New York, N. Y.

Dr. Andrija Stampar wrote from London on September 19, 1945:

"I came back to my home after I had been imprisoned and interned in Germany for four years. My oldest daughter also came back after she spent three years with partisans. Now we are all at home.

"I had been dismissed from the Faculty on the same day when in April, 1941, Germans occupied Zagreb. In addition I was imprisoned and handed over to the Gestapo. My wife had also been dismissed, and she lived in Zagreb under very difficult conditions, practically without any means. She was brave waiting for me. Finally our day came. It was wonderful to come to liberated Zagreb. My dear wife and children at the moment could not recognize me because I have lost almost one-third of my weight.

"I am again at the Medical School and my wife at the School Polyclinic.

"My country is recovering from many wounds inflicted upon it during last four years. Young and dynamic people are in charge of public health. They have some new views but lately they are working with us. Generally speaking I am optimistic.

"Could you forward to me public health journals and some important books? We are very much in need of them."

Dr. J. H. Tuntler, formerly Chief Medical Officer at Groningen, The Netherlands, was Chief Medical Officer in Amsterdam when the Germans came. He writes:

"After five terrible years of war I am happy to write to you, my first letter to a friend from overseas. You cannot understand

what it means to be a prisoner in your own country, in your own town, in your own house, for five long years. But it is still more difficult to understand what, after this period of oppression, means liberty, liberty of action, of conscience, the right of free speech, freedom of the press. We are as a bird released from the cage. We forgot how to fly. . . . You have seen our beloved country and you know how rich it was. You cannot recognize it now. It is a complete ruin. . . . We lost all contact with the civilized world and with the scientific and social workers from abroad. A great part of my books is lost. The Germans burned many libraries and they stole whatever they could lay their claws on. Will you be so kind as to send me some books or other publications on public health? There are no new medical books here and we cannot buy them from abroad. Books and other publications are the only means of recovering the ground we lost during the war.

FIFTY YEARS OF PUBLIC SERVICE

Dr. Sandor Horowitz, Peoria, Ill., was presented with a 50 year pin and certificate by the Illinois State Medical Society upon the completion of 50 years of public service to the people of Peoria County. A scroll signed by members of the local medical society accompanied the honors which were presented at a dinner meeting held in Peoria on September 18. Dr. Horowitz was graduated from the Missouri Medical School which later became the School of Medicine of Washington University, and has practised in Peoria since 1895 as city physician, police surgeon, chief physician of the Hospital for Contagious Diseases, and as Commissioner of Health. He served as First Lieutenant and Captain in the Medical Reserve of the First World War. Since 1931, Dr. Horowitz has held the position of district health superintendent and assistant epidemiologist, Illinois State Department of Health.

ALASKA'S NUMBER ONE HEALTH PROBLEM

The most serious and pressing problem confronting the new Board of Health in Alaska is the steadily increasing spread of tuberculosis. This is no new situation. The surveys of the American Public Health Association in 1940 and 1943 recommended expansion of facilities in this direction, but the war conditions (influx of population, overcrowding, lack of housing facilities, etc.) have aggravated conditions, and recent studies by the Board of Health reveal an estimated 4,000 cases in the Territory with but 289 beds to care for them. The board has urged the immediate transferal of military surplus property, hospital equipment, and buildings to the Territory, offered the fullest coöperation with the Alaska Tuberculosis Association, and passed a formal resolution urging the Territorial Legislature to appropriate $253,122 (to be matched by federal funds—$258,667) for an adequate hospitalization program for the treatment of tuberculosis, starting with the fiscal year, June 1, 1946.

COÖPERATION OF STATE DEPARTMENTS IN HEALTH EDUCATION IN GEORGIA

Georgia has a "pilot plant" in health education. With the assistance of a grant from the W. K. Kellogg Foundation, four rural counties in different parts of the state have been selected as "Health Project Counties" for a demonstration in an integrated health education program sponsored jointly by the Department of Public Health and the State Education Department. The State School Supervisor, J. M. Gooden, is acting as State Coordinator. The first step in the project was a six weeks' summer workshop in health education for teachers and principals at the Georgia State College for Women and at Atlanta University. To facilitate the program it is planned that "all community resources which can contribute to a sound and well rounded

health education program will be called on for assistance." If the expected results follow the program will be made state-wide.

POST-WAR JOBS FOR PUBLIC HEALTH NURSES

The National Organization for Public Health Nursing has issued a leaflet, *Your Postwar Job,* for nurses returning from military service. It is being distributed to professional and non-professional organizations for use in vocational guidance programs for nurse-veterans, according to Ruth Houlton, R.N., General Director.

"Nurses are already returning from military service, for various reasons, at the rate of approximately 400 a month," Miss Houlton stated, "and it is important that they receive guidance in choosing the field of civilian nursing that makes the best use of their skills and where they are most needed. There have never been enough public health nurses in this country and at present some health departments and visiting nurse associations have from 20 to 30 per cent vacancies on their nursing staffs."

Copies of the leaflet are free on request from the National Organization for Public Health Nursing, 1790 Broadway, New York 19, N. Y.

GORGAS MEDAL AWARDED CAPTAIN COGGESHALL

The Gorgas Medal, awarded annually since 1942 for outstanding work in preventive medicine for the armed forces, has been presented this year by the Association of Military Surgeons, to Capt. Lowell T. Coggeshall of the U. S. Navy, an expert on tropical disease, "for distinguished service to our military forces in establishing new principles in the management of patients suffering from psychic disturbances as well as physical deterioration from the effects of malaria and filariasis."

MEDICINE TODAY

The New York Academy of Medicine has announced the Eleventh Series of Lectures to the Laity during the current year. Future sessions, which began in November, will be held at 8:30 P.M. on December 13 and 27 and on January 10 and 24.

The program on December 13 includes an address by Basil C. MacLean, M.D., Rochester, N. Y., on The Hospital and the Laboratories. That on January 10 concerns the layman's part in medicine and preventive medicine by Edward S. Rogers, M.D., Albany, N. Y. The January 24 session is on economics and medicine, Alternative and Multiple Solutions to the Problems of Medical Costs, by Dean A. Clark, M.D., New York, N. Y.

STATE AND TERRITORIAL HEALTH OFFICERS DECLARE PRINCIPLES OF SCHOOL HEALTH PROGRAMS

Dr. Vlado A. Getting, Boston, Mass., Secretary-Treasurer of the Association of State and Territorial Health Officers, announced recently a resolution adopted by the Association proposing a division of the responsibility for school health services between the departments of health and education. According to this resolution, the primary responsibility for the educational aspects of health education are those of the school authorities. However, the prime responsibility for rendering services as given by the physician, nurse, dentist, and others, is in the opinion of this group that of the health department. The State and Territorial Health Officers believe that only by integrating the work of these two departments can the school health program be a success and its ultimate goal of optimal health for all the students be achieved. The health officers have indicated their intention to support or oppose any legislation pertaining to school health on the basic principle outlined in this resolution.

LASKER AWARD

On November 1, at the annual luncheon of the National Committee for Mental Hygiene, the Lasker Award for outstanding service in rehabilitation was conferred jointly on Dr. John Rawlings Rees, Consultant in Psychiatry to the Directorate of Psychiatry of the British Army, and Major General G. Brock Chisholm, Deputy Minister of National Health, Federal Department of National Health and Welfare, Canada. The presentation was made by General Omar N. Bradley.

The Lasker Award of $1,000, established in 1944 by the Albert and Mary Lasker Foundation, is given annually through the National Committee for Mental Hygiene for meritorious service and significant contributions to promoting mental health and increasing public understanding of mental hygiene.

MISS STRACHAN RETIRES FROM THE N.T.A.

On July 1, 1945, Miss Louise Strachan retired from the headquarters staff of the N.T.A. where she had served consecutively since 1921, and later, since 1925, as Director of the Child Education Service. She started her work in tuberculosis in 1917 with the Tuberculosis Committee of the State Charities Aid Association and was also from 1919 to 1921 the Secretary of the Ontario County Tuberculosis Committee.

She spent 1928–1929 in Europe studying health education methods; in 1931 she organized the first National Conference on College Hygiene; in 1936 she was appointed by President Roosevelt as United States representative at the 3rd International Congress on Open Air Schools held in Germany. There she presented a paper on the Evolution of the Open Air School in the United States.

She is the author of *Fifteen Years of Child Health Education* and of *The Place of Child Health in a Tuberculosis Program*, as well as many articles in health and education journals.

A member of the American Public Health Association since 1920, she was elected a Fellow in 1932. She also served as Chairman of the Library Committee of the National Health Council and spent herself prodigally in building up interest in the Library and in its usefulness to health workers.

She will be missed by the Council agencies but her work will go on, for after a brief rest she will devote part of her time to further research in health education of school children.

A POLIOMYELITIS TREATMENT TRAINING CENTER IN NEW YORK CITY

New York's first medical center for the specialized training of doctors, nurses, and other professional personnel in the treatment of poliomyelitis was established at Knickerbocker Hospital in October, 1945. Dr. Philip M. Stimson, Associate Professor of Pediatrics at Cornell Medical School, will direct the unit, assisted by 3 physicians, 5 physical therapists, 1 occupational therapist, 18 nurses, and an executive secretary. One floor of 35 beds has been set aside for the unit. All phases of treatment will be included and training facilities in the newest techniques of treating the disease will be available to physicians from all parts of the country.

The budget of about half a million dollars for special equipment, treatment of patients, education, and hospital charges for those unable to pay has been provided jointly by the New York Chapter and the National Foundation for Infantile Paralysis.

CONNECTICUT COMMISSION ON THE CARE OF THE CHRONICALLY ILL

The 1945 session of the Connecticut legislature set up a Commission of five members and the Commissioners of Health and of Welfare, ex-officio, on the

care of the chronically ill, aged, and infirm. Provision is made for a study of the problem, an initiation of a program, including necessary building, the coördination of existing facilities, and the drafting of appropriate legislation. The first year's appropriation is $25,000.

CANCER RESEARCH PROGRAM

A sum of $500,000, from funds raised during the spring of 1945 cancer campaign, is being made available by the American Cancer Society for initial steps in a cancer research program. The fund is to be divided among chemical, biological and clinical research, and research in physics, of which $50,000 is recommended for fellowships to be given scientists released from the armed services who will engage in cancer research.

CATTARAUGUS COUNTY TUBERCULOSIS ASSOCIATION CELEBRATES TWENTY-FIVE YEARS

A twenty-fifth anniversary celebration of the founding of the Cattaraugus County Tuberculosis and Health Association was held in Olean, N. Y., on October 11. The principal speaker was Herman M. Hilleboe, M.D., Chief of the Tuberculosis Control Division of the U. S. Public Health Service, Washington, who urged an impartial survey of present anti-tuberculosis work in the county and a campaign involving the examination of every resident.

C. A. Greenleaf, M.D., President of the Association, reviewed the record as did Lilla C. Wheeler of Portville, former member of the County Board of Health. Wendell R. Ames, M.D., Commissioner of Health, Richard Nauen, M.D., Director of Tuberculosis Control, and Dorothy V. Weston, member of the Cattaraugus County Board of Health, were other speakers. It was recalled that the Tuberculosis and Public Health Association was a participating agency in the health demonstration conducted in the county for about ten years under the auspices of the Milbank Memorial Fund and the State Charities Aid Association.

FELLOWSHIPS IN PUBLIC HEALTH AVAILABLE TO VETERANS

The New York State Department of Health has available a limited number of fellowships for physicians desirous of equipping themselves with the necessary field and academic experience for the practice of civilian public health on a full-time basis. Six to twelve months of orientation and field work are provided under the guidance of experienced district state health officers, followed by an academic year at a postgraduate school of public health where the master's degree in public health is earned. Fellowship provisions are generous and include tuition. Those completing the training are professionally qualified for appointment on the staff of most local and state health departments.

Applicants must possess certain basic qualifications, among which are United States citizenship, graduation from a medical school approved by the American Medical Association, internship of at least one year's duration in a general hospital approved for internship by the American Medical Association, and eligibility for license to practise medicine in New York State. The upper age limit is 35 years.

Physicians interested in making application for a fellowship should write to the State Department of Health, Albany 1, N. Y.

EMPLOYMENT OF RETURNING VETERANS AND DISPLACED WAR WORKERS

Returning veterans and displaced war workers who are scientifically and professionally qualified and who are seeking employment in industry, nonprofit research institutions, colleges, and universities are offered the resources of

the National Roster of Scientific and Specialized Personnel. The Roster is prepared to undertake placement in practically all professional fields except in elementary and high school teaching, and does not restrict its help to the fields in which it maintains its registry.

Technical and professional personnel are invited to notify the National Roster that they are available for employment. If any are not already registered with the Roster, registration blanks will be sent to them promptly on request. Employers who are in need of additional personnel should send to the Roster descriptions of the positions which they wish to fill, together with detailed requirements as to age, extent of education, and amount and nature of experience. Professional and technical societies that are engaged in organized efforts to place members of their professions are privileged to ask the cooperation of the National Roster.

Address: National Roster of Scientific and Specialized Personnel, 1006 U Street, N.W., Washington 25, D. C.

BALTIMORE'S DEMOGRAPHIC STUDIES

A broad concept of the demographic responsibility of a registration office is suggested by W. Thurber Fales, Sc.D., Director of the Statistical Section of the Baltimore City Health Department. In "Demographic Responsibilities of a Registration Office as Developed in Baltimore, Maryland," in the September-October, 1945, *Baltimore Health News*, he reminds health officers and vital statistics registrars that the statistical uses of vital records are even more important than the legal.

He relates the story of Baltimore's acceptance of its responsibility not alone for registering and reporting births and deaths, but for knowledge of its population characteristics and distribution as well. In 1935, the City Health Department reorganized the city's census tracts into 157 subdivisions, each with a fairly homogeneous population of approximately 5,200 persons. All vital statistics, as well as census data, are now tabulated for these tracts, so that current social data in neighborhood units are at all times available.

He points out further some of the special departmental and coöperative uses to which resulting data have been put—deaths of veterans reported to the State Veterans Commission, of physicians to the A.M.A., accident deaths to the Traffic Bureau. Interdepartmental reports include births to the Bureau of Child Hygiene, maternal deaths to the Division of Maternity Hygiene, tuberculosis deaths to the Bureau of Tuberculosis, etc.

A further activity has been to furnish consultant service to other agencies in the preparation of studies based upon population and vital statistics. The list of studies and coöperating agencies is an impressive one.

Dr. Fales concludes:

> The writer is firmly convinced that a recognition by registration offices of the three basic principles, that is a broad definition of vital statistics, the need for timely releases of current data, and the importance of analyses based on small areas, will give to registration offices a new impetus to explore their statistical opportunities. For all cities having a population of 250,000 or more there should be a vital statistics office with a program similar to that of Baltimore. . . . The same principles that form the basis of Baltimore's development of its vital statistics program are applicable to large jurisdictions. A state registration office should aim to be the center for demographic data for the entire state. Counties or subdivisions of counties may replace census tracts in its concept of small areas.

"BABY TALK" MAGAZINE ANNOUNCES HEALTH AWARDS

The magazine *Baby Talk*, marking its 10th anniversary in New York City in November, announced six awards for furthering health and welfare of mothers and babies. Among those re-

ceiving the recognition were Martha M. Eliot, M.D., Assistant Chief, U. S. Children's Bureau, Washington, D. C.; Leona Baumgartner, M.D., Director of the Bureau of Child Hygiene, New York City Department of Health; Hazel Corbin, R.N., Director of the Maternity Center Association, New York City; Mrs. Sidonie Matsner Gruenberg, Director of the Child Study Association of America, New York City; J. Norris Myers, Editor of Medicine and Public Health Division of the Macmillan Company, Publishers, New York; and Senator Claude Pepper, Washington, D. C.

NEW SCHOOL OF PUBLIC HEALTH IN BRAZIL

The Institute of Hygiene of the University of São Paulo, where a post-graduate course in public health and hygiene was given for several years, has now been transformed into a School of Public Health and Hygiene under the direction of Dr. Paula Souza, who holds a diploma of Doctor in Public Health from The Johns Hopkins University. This is the first university school of the kind to exist in this country. Drs. Borges Vieira, P. Egydio de Carvalho, Alcantara Machado, Alexandre Wancolle, Lucas Assumpção and Arthur A. Whitaker are professors at the new school. Dr. Paula Souza, still absent in the United States, has just served as a member of the delegation of Brazil at the World Security Conference of San Francisco.

UNRRA TO EXPAND PROGRAM IN U. S.-OCCUPIED GERMANY

UNRRA health officers have completed an expanded program of winter medical care for the remaining displaced persons in assembly centers in U. S.-occupied Germany, according to word received by the Washington Headquarters of the international relief and rehabilitation agency. Care will include full-scale hospital and dispensary services and an extensive schedule of preventive medicine based on standard public health procedures. The work will go forward under the supervision of the Public Health Branch of U. S. Military Government. Approximately 500,000 displaced persons are said to be in the U. S.-occupied zone at the present time.

Anticipating a severe winter with critical fuel shortages in Germany, UNRRA doctors are immunizing the displaced persons for typhus, diphtheria, typhoid, and smallpox. Supplies of the sulfa drugs are being stocked for pneumonia. The possibility of typhoid with the spring thaws is also being met now by sanitation measures to check the disease at its sources.

The winter program, concentrating on organized services within the assembly centers, marks a change of emphasis from the work this summer when the medical program was devoted primarily to basic services for the millions of displaced persons enroute to their homelands in mass repatriation movements.

Lt. Col. David C. Elliott of Cincinnati, Chief UNRRA medical officer for the zone, states that while it is difficult to forecast accurately the winter health prospects of the displaced persons, reliance has been placed on established health service techniques of preparing in advance for the possibility of critical developments.

ALL ARMY PERSONNEL TO RECEIVE INFLUENZA INOCULATIONS

The Office of the Surgeon General, U. S. Army, has announced that all Army personnel have been ordered inoculated during the months of October and November with a new influenza vaccine as a preventive measure against influenza epidemics. The vaccine, according to the announcement, is made by injecting influenza virus into chick embryos, and is administered in

a single injection. The experimentation with the new vaccine was started early in 1943, but sufficient quantities for mass inoculation were not made available until the present year.

BLUE CROSS PRIVILEGES FOR DISCHARGED SERVICE MEN

The Associated Hospital Service of New York, through its President, Louis H. Pink, announced in October that service men who suspended their membership in the Blue Cross Plan may be reinstated after discharge without loss of former privileges. Former service men not formerly in the plan may join without filing a medical questionnaire, a privilege usually given only to those persons subscribing as a part of an employed group. These special privileges are limited to a period of 60 days after military discharge.

PERSONALS

Central States

WILLIAM WORDEN BOLTON, M.D., of Chicago, Ill., has been appointed Assistant Director of the Bureau of Health Education, American Medical Association, Chicago, effective October 15. Dr. Bolton is a graduate in medicine from the Jefferson Medical College in 1930 and was formerly connected with the Pennsylvania State Department of Health in venereal disease control work. He recently has served with the U. S. Army Medical Corps in Germany.

D. A. DUKELOW, M.D.,* who for 8 years has served as Director of Public Health Education in the Minnesota Department of Health, Minneapolis, on November 1 became Secretary to the Division of Health and Medical Care of the Central Planning and Research Department, Minneapolis Council of Social Agencies.

ALBERT C. EDWARDS, M.D.,* Port Huron, Mich., Director of the St. Clair County Health Department, has been named Health Officer of Racine, to succeed DR. IRA F. THOMPSON, who resigned.

ROBERT M. MAURER, M.D., of Brazil, Indiana, has been named Health Commissioner of Clay County to succeed LEWIS C. RENTSCHLER, M.D., Clay City, who resigned because of ill health.

CARL J. POTTHOFF, M.D.,† who for 8 years has been Associate Professor of Biological Sciences and Public Health at the University of Minnesota, has been appointed Director of First Aid and Associate Medical Director of the American Red Cross, Washington, D. C.

RUSSELL O. SAXVIK, M.D., has been appointed Director of Maternal and Child Health for the North Dakota State Department of Health.

Eastern States

JOHN J. BOURKE, M.D., M.P.H.,* who has recently been serving with the U. S. Public Health Service Reserve as Senior Surgeon; has been named the Director of the New York State Survey of Hospital Facilities for the Joint Hospital Board appointed by Governor Dewey. Dr. Bourke was formerly the Director of the State Legislative Health Preparedness Commission.

H. BRIEGER, M.D.,† of Philadelphia, has resigned from the staff of the Hahnemann Medical College and has been appointed Associate Professor of Preventive Medicine (in industrial hygiene and medicine) at Jefferson Medical College, Philadelphia.

DEAN A. CLARK, M.D.,† Assistant Director of the Public Health Methods Division and Senior Surgeon of the U. S. Public Health Service,

* Fellow A.P.H.A.
† Member A.P.H.A.

has been granted a leave of absence to become Medical Director of the Health Insurance Plan of Greater New York.

GEORGE E. FOLEY,† Bacteriologist of the Department of Preventive Medicine and Epidemiology, Harvard Medical School and School of Public Health, has resigned as of November 1 to accept an appointment to the staff of the Massachusetts General Hospital, Boston, as Assistant Bacteriologist.

Southern States

LUDWIK ANIGSTEIN, M.D.,† Associate Professor of Preventive Medicine of the Medical Branch at Galveston of the University of Texas, attended the first Inter-American Conference on Typhus Fever, held in Mexico City in October. He was invited to discuss the classification of rickettsia.

MRS. ENOLA ARCHINARD, M.A., M.S.W., was recently appointed Medical Social Supervisor for the New Orleans Health Department. Previous to this, she had been in charge of the Rehabilitation Program of the Council of Social Agencies and the Department of Public Welfare of New Orleans.

VINTON W. BACON,† Asst. Engr. (R) USPHS, is Supervisor of the combined Typhus Control and Typhus Training Project in Atlanta, in which the City of Atlanta, State Health Department and the U. S. Public Health Service are coöperating.

W. D. CAGLE, M.D.,† Regional Medical Officer, West Central Region at Griffin, Ga., has transferred headquarters to Marietta and will serve as Medical Director of the Northwestern and Northeastern Regions.

WILLIAM F. ELKIN,† who has recently served in the U. S. Bureau of the Census, Division of Vital Statistics, Washington, D. C., has resigned to accept the position of statistician in the Oak Ridge, Tenn., Department of Health.

JAMES L. FIESER, Washington, D. C., long a senior staff member of the American National Red Cross, has resigned to accept an appointment as Assistant to the President of the National Safety Council, Inc., Chicago, Ill.

CHANGES IN HEALTH OFFICERS IN FLORIDA

LELAND H. DAME, M.D.,† Director of Seminole County Health Department for the past 3 years has resigned and has been appointed Director of the Orange County Health Department with headquarters at Orlando, as of November 1, 1945.

JAMES B. PARRAMORE, M.D.,† after serving in the U. S. Public Health Service, has returned to Key West and has been appointed Director of the Monroe County Health Department, October 2. He was previously Director of this Unit.

WILLIAM P. RICE, M.D.,† has resigned as Director of the Orange County Health Unit and has entered medical practice at Orlando. He is specializing in pediatrics.

PAUL J. COUGHLIN, M.D., was recently appointed Director of the Leon County Health Department with headquarters at Tallahassee. He had been serving as Health Officer of the Unit on assignment from the Public Health Service.

ELBYRNE G. GILL, M.D., Roanoke, Va., was recently appointed Chairman of the City Board of Health and WILLIAM R. WHITMAN, M.D., Vice-chairman.

RALPH GREGG, M.D., Senior Surgeon, U. S. Public Health Service, has been assigned to the Kentucky State Health Department to serve as Field

* Fellow A.P.H.A.
† Member A.P.H.A.

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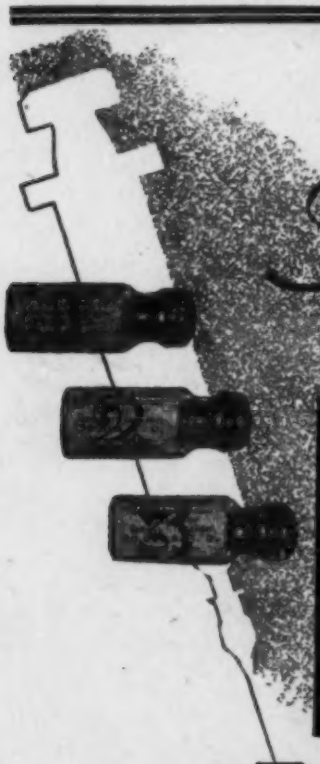

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